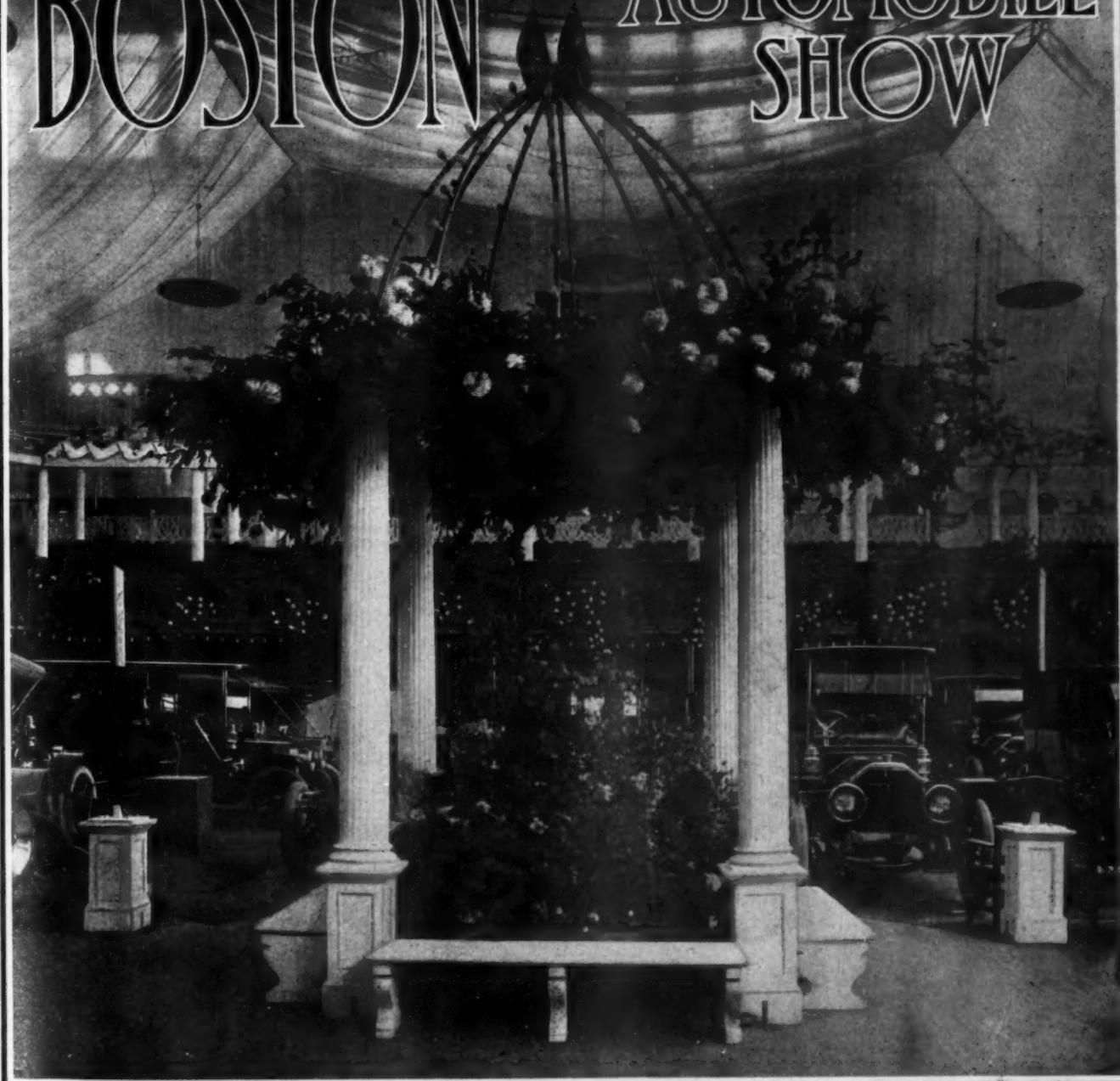


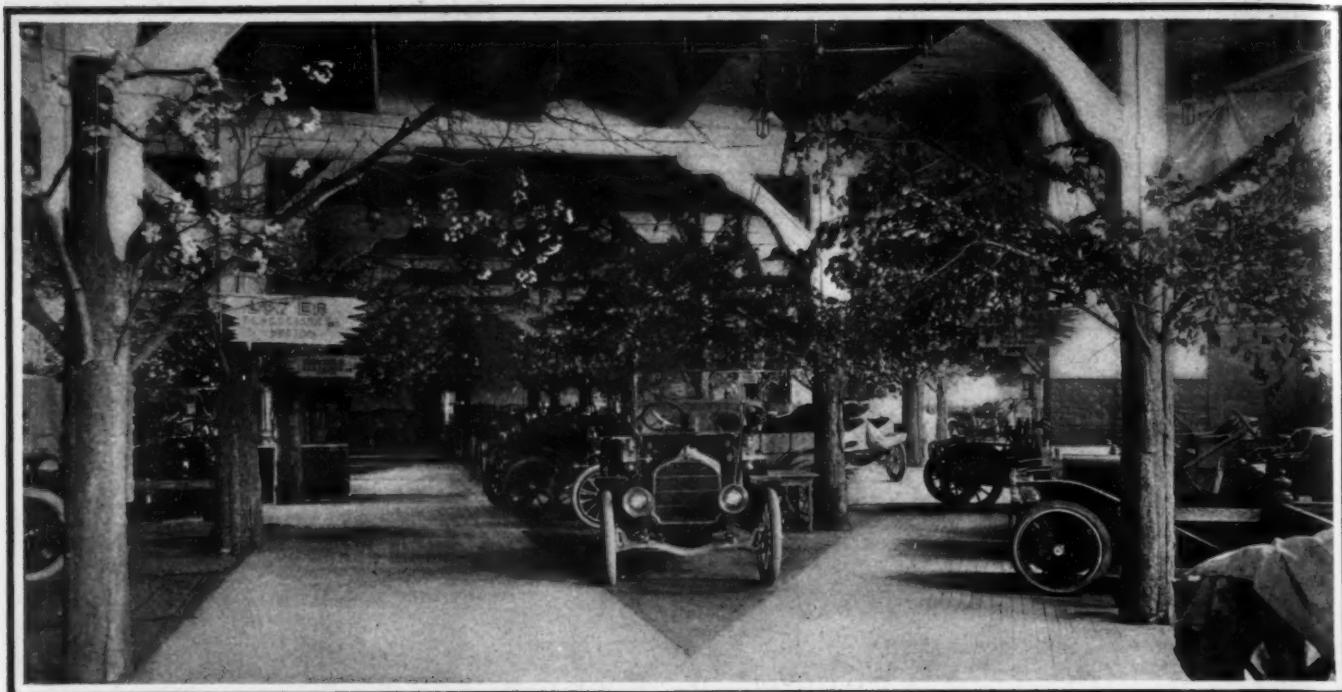


BOSTON AUTOMOBILE SHOW



BOSTON welcomed the Eighth Annual Automobile Show which is being run under the auspices of the Boston Automobile Dealers' Association, under the direct management of Chester I. Campbell, whose success last year as a show manager

was so marked that he was given carte blanche by the Board of Directors, when it was decided to make this year's event an epoch-making example. It was thought last year that the show decorations, since they were modeled after an art motif which



Two Paths through the Apple Orchard; Beneath the Blossoms and Leafy Branches Appears the Selden Exhibit

was selected from abroad after a long and painstaking search, were scarcely to be exceeded, but the transplanted motif, however good it may have been, falls flat in the face of the effort this year. New England scenery in the Springtime offers many advantages, and in accepting it as the art motif, Manager Campbell, with his native instinct, struck the responsive chord and added the atmosphere, as it were, which brought an apparent illusion up to the standard of a reality.

The spectators, as they pass the entrance, come into view of an old New England apple orchard which was improvised by

the simple expedient of transferring the bark of old apple trees to the columns which support the Hall, and the limbs of the trees were fastened to the columns in a way to complete the illusion. It took a hundred thousand clusters of apple blossoms, which look so real that one can scarcely tell that they were improvised. The old rail fences which were brought down from New England farms, complete the spectacle, but the daffodils which were in much profusion, arranged in boxes at points of vantage, added the finishing touch to the Springtime scenic undertaking. There were other floral effects and decorations to



Alvan T. Fuller, Showing the Packard and Cadillac, Occupied the Stage with Some Handsome Machines

match, and each of the halls were given a sufficient dash of variation to induce mingled feelings of surprise and pleasurable anticipation to the enthusiastic and large audience, which awaited the opening promptly at 8 o'clock P. M. on Saturday, March 5, without formality, so that the spectators were wholly unprepared for what is now counted, by the show veterans of the greatest experience, as being a demonstration in force of the elegance which comes from simplicity and appropriateness, responding to the directions of the master hand.

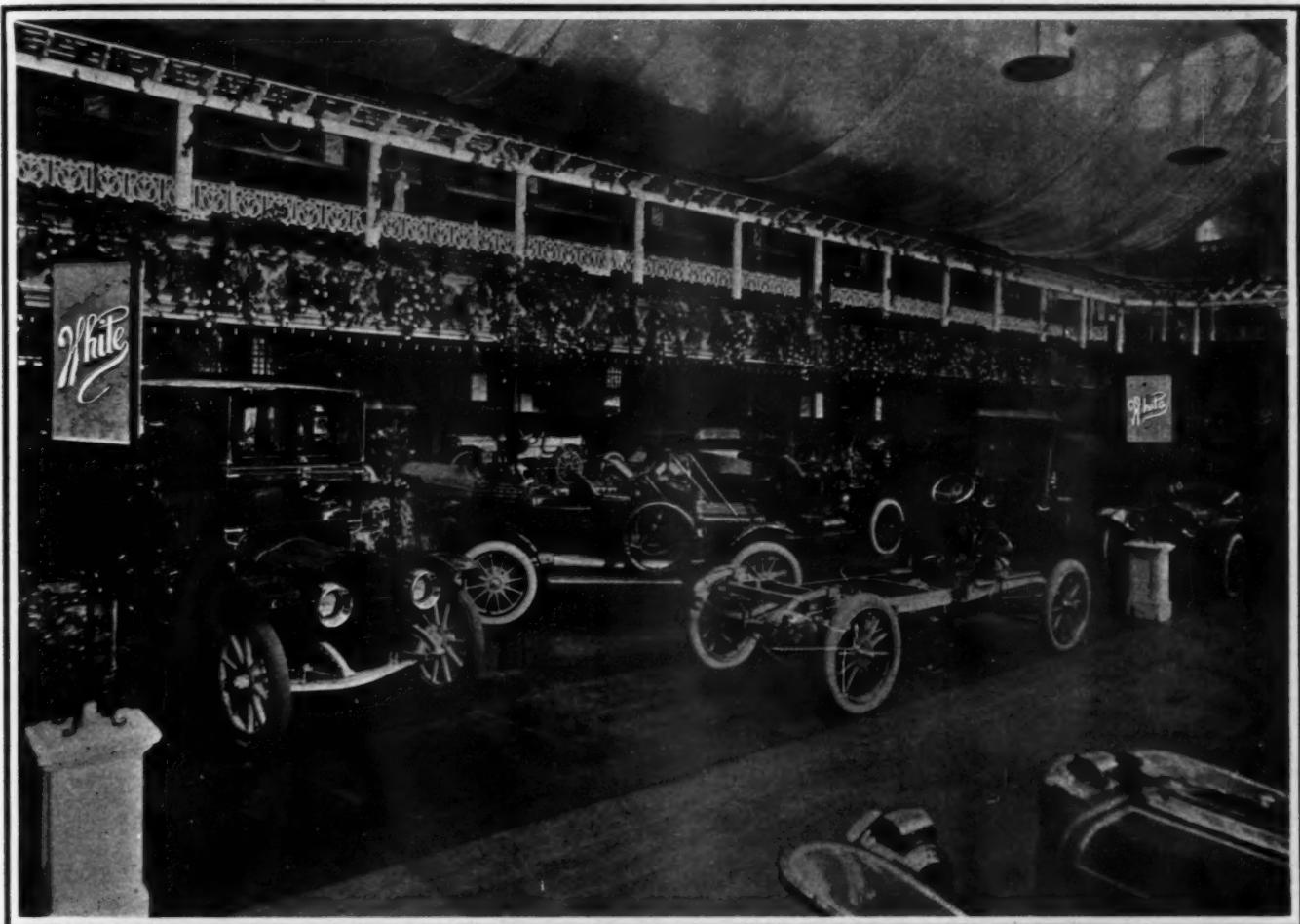
NEW ENGLANDERS OF NOTE OFFICIATE

To illustrate the breadth of character of the management of the Boston Automobile Dealers' Association, it is only necessary to point out that while the show is on, thus enabling the management to contact intimately with the respective makers and their agents, an organized effort is being made to borrow enough automobiles, drawing upon demonstrating cars heavily,

A. Gilmore, director; F. E. Wing, director; A. P. Underhill, director; Chester I. Campbell, general manager.

There are 31 active members in the association: J. H. MacAlman, J. S. Hathaway, F. A. Hinchliff, George H. Lowe, Harry Fosdick, J. W. Maguire, Charles E. Fay, K. M. Blake, John L. Snow, Fred S. Smith, L. B. Butler, A. P. Underhill, F. E. Wing, A. T. Fuller, W. M. Jenkins, F. J. Tyler, J. M. Linscott, N. S. H. Sanders, C. F. Whitney, E. D. Dodge, J. W. Bowman, E. A. Gilmore, S. H. Baker, R. W. Daniels, Paul R. Curtis, Henry L. Johnson, A. B. Henley, Roy A. Faye, C. P. Rockwell and V. A. Charles.

The association was formed in 1902 and its first president was Kenneth A. Skinner. The first year resulted in a substantial foundation, and when J. H. MacAlman was elected to the presidency, the policy of the association was so crystallized that it has obtained in substantial form from that day to this, resulting in much good to the automobile industry, besides inspiring confi-



The White Exhibit As Seen from the Stage, with a Gasoline Limousine and Chassis in the Foreground

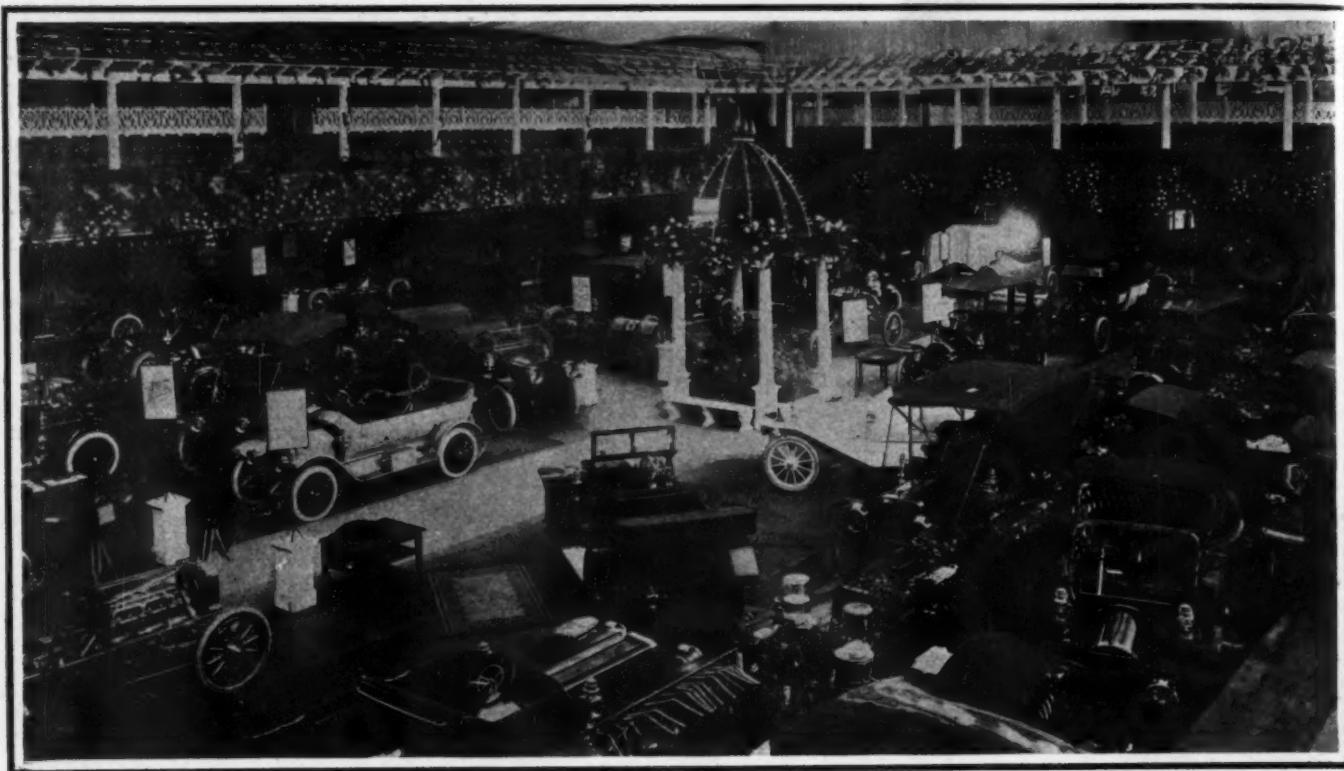
to give all the poor children in Boston and its suburbs a ride which will survive in juvenile memory until prosperity overtakes the juveniles, when they may be able to ride in their own automobiles. It is this broad and varied effort on the part of the Dealers' Association and its members which has attracted public notice, and which resulted in a patronage on Saturday night when the show opened, that covered every foot of available space, and represented the substantial of this metropolitan community. Not only that, which was somewhat to be expected, but on later days the attendance was fully up to expectations.

The Board of Directors of the Boston Automobile Trade Association comprise: J. H. MacAlman, president; J. S. Hathaway, vice-president; A. F. Hinchliff, treasurer; Chas. E. Fay, director; J. W. Maguire, director; C. F. Whitney, director; E.

dence. It is the policy of the association to maintain its membership strictly among dealers, and this policy is so rigidly enforced that prominence is never a sufficient excuse for membership—the first requisite lies in being a dealer. The obligations imposed upon the members are such that the public is adequately protected from every point of view.

AUTOMOBILES EXHIBITED AT BOSTON

On the opening night when the doors were swung back, an eager throng, rapidly filled the several Exhibition Halls and the 116 separate models of automobiles which were then ready for inspection became the main centers of attraction. The New England makes of automobiles were the first to be examined, among which the Columbia assumed extra importance, in

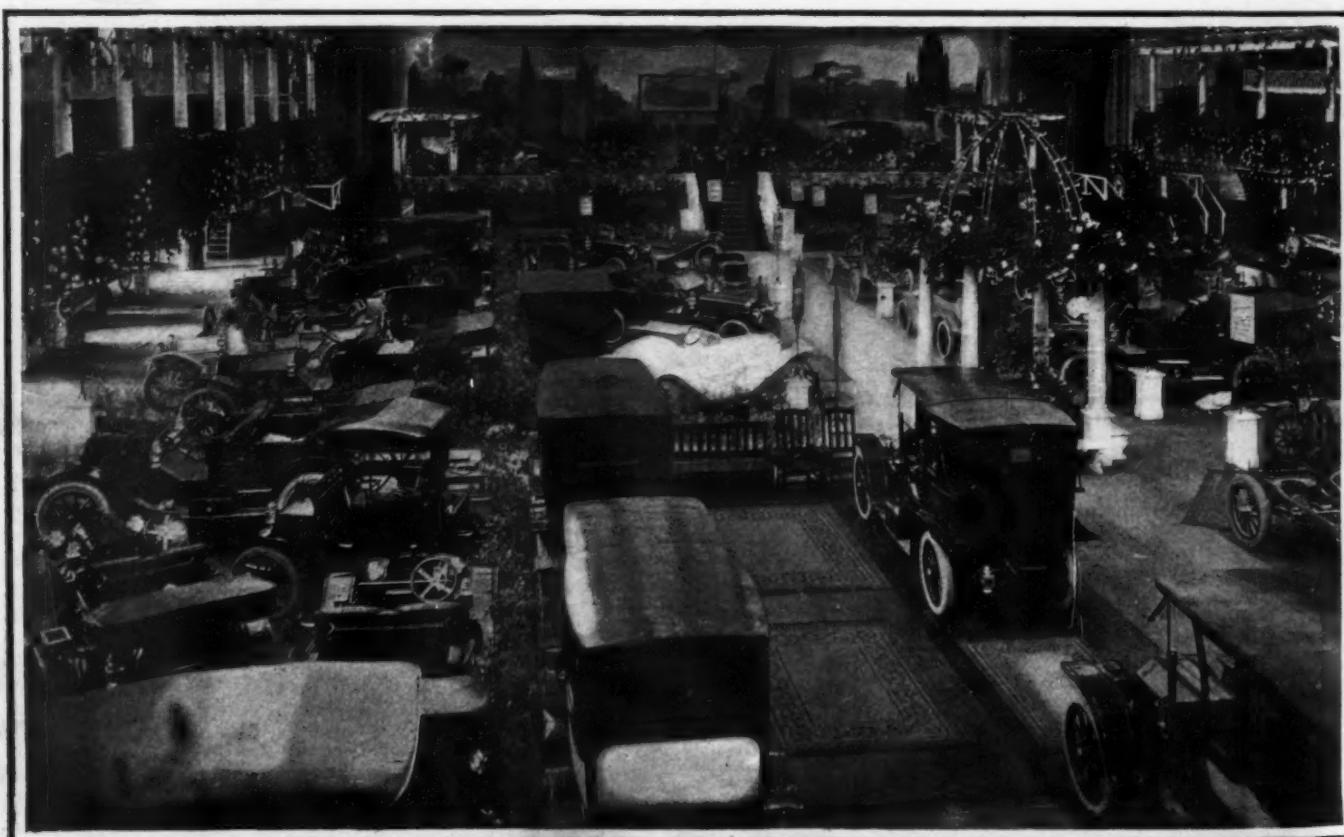


Looking Diagonally Across the Main Hall; the Galleries Were Pergolas Half-Hidden with Rose Blossoms

view of the recent combination of this make of car with the Maxwell and the other interests which form the United States Motor Company. The Locomobile from Bridgeport had its coterie of adherents, and the Knox, both in the commercial as well as in the pleasure section, was thoroughly engaged. Then,

there was the Corbin of "full jewel" fame, and the Pope-Hartford besides.

The Alco exhibit created much favorable comment, due to the refinements which have been steadily going on despite the original high character of the Berliet, from which the Alco sprung.



View of Main Hall in the Direction of the Stage, with the Peerless Closed Cars in the Foreground

The two-cycle contingent made pilgrimage to the section occupied by the Atlas Company, where they were entertained sufficiently to gratify their desires. In the meantime the Stevens-Duryea booth was the center of attention of the many who take a particular fancy to the unit power plant, three point suspension, flywheel in front, and the perfect symmetry of the crankcase and extension which naturally follows. There was still a large number of the admirers of New England makes of automobiles and they gathered around the Metz booth where they were entertained instructively; the Metz is an unassembled product, and the company furnished everything necessary to the automobile enthusiast who prefers to be his own mechanic. So much for the product of the New England factories.

Excepting for the Anderson car which was listed to be exhibited but which failed to put in appearance in the Kline Kar booth up to the time of going to press, and the Morse, which is described elsewhere at some length, there were none which had not already been seen at New York or Chicago. That the showing was truly representative of the industry may be seen from the following list of the various classes. The automobiles actually on exhibition, counting makes, are as follows:

ELECTRIC PLEASURE CARS

Baker, Bailey, Columbia, Detroit, Firestone-Columbus, Rauch & Lang, Studebaker and Waverley.

STEAM PLEASURE CARS

White and Stanley.

GASOLINE PLEASURE CARS

Alco, Allen-Kingston, Autocar, American, American, Austin, Atlas, American Simplex, Abbot-Detroit, Buick, Berkshire, British Napier, Black-Crow, Brush, Cadillac, Chalmers, Columbia, Corbin, DeMot, Paige-Detroit, Everitt, E-M-F and Flanders "20," Elmore, Empire, Fuller, Fiat, Ford, Franklin, Garford, Grout, Hudson, Haynes, Hupmobile, Herreshoff, Inter-State, Isotta, Jackson, KisselKar, Krit, Kline Kar, Locomobile, Lancia, Lozier, Lambert, Mercer, Mitchell, Mora, Matheson, Maxwell, Marmon, Marion, Morse, McCue, Midland, Ohio, Oldsmobile, Oakland, Overland, Packard, Pope-Hartford, Peerless, Pierce-Arrow, Premier, Pierce-Racine, Palmer-Singer, Paterson, Pullman, Royal Tourist, Rambler, Rainier, Reo, Regal, Renault, Stevens-Duryea, Studebaker, Stearns, Seiden, Speedwell, Simplex, Schacht, Standard, Stoddard-Dayton, Thomas Flyer, Velle, Warren-Detroit, Welch, Winton, and White.

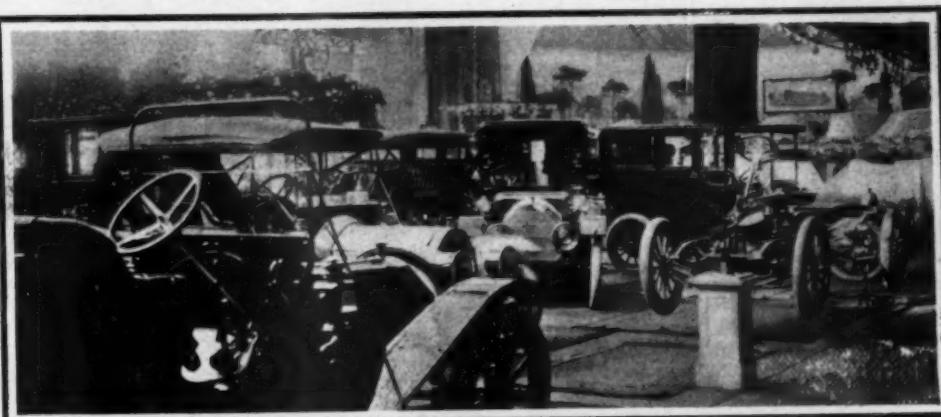
COMMERCIAL AUTOMOBILES

Alco, Autocar, Brush, Buick, Butler, Buffalo, Chase, Couple-Gear, Electric Commercial, Fuller, Frayer-Miller, Gramm, Garford, Grabowsky, General Vehicle, Hart-Kraft, Knox, Martin, Morgan, Pope-Hartford, Randolph, Rapid, Reliance, Studebaker, Sampson and White.

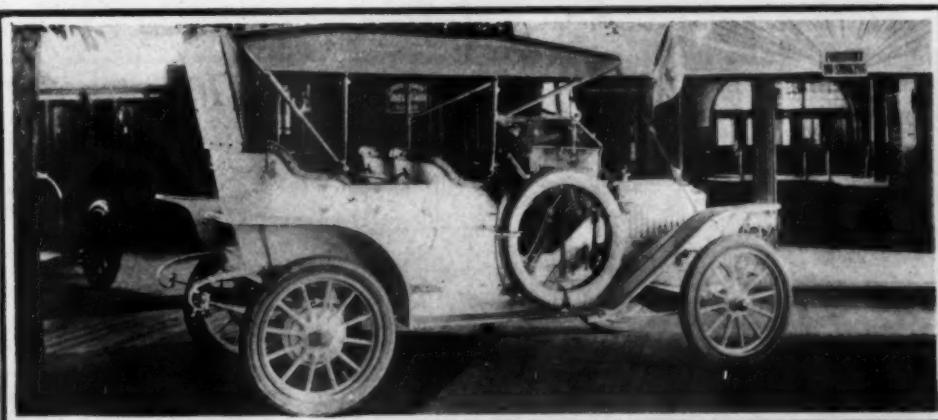
In addition to the automobiles as above enumerated, there were twelve makes of motor cycles on exhibition, as follows: American Simplex, American, Crouch, Emblem, Excelsior, Indian, Merkel, Light, Pierce, Racycle, Reading Standard, Thor and Yale.



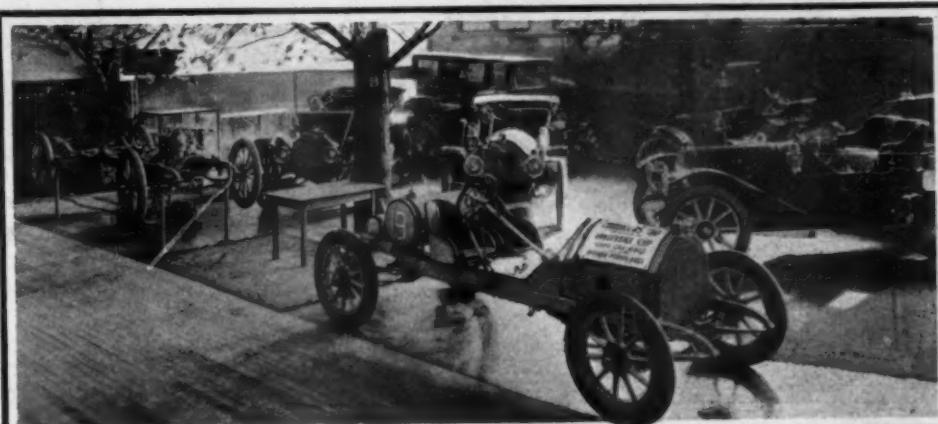
Marmon Exhibit Included Various Types of Torpedo, Touring Car and Roadster



In the Main Hall, Pierce-Arrow Exhibited a Chassis, besides Complete Cars



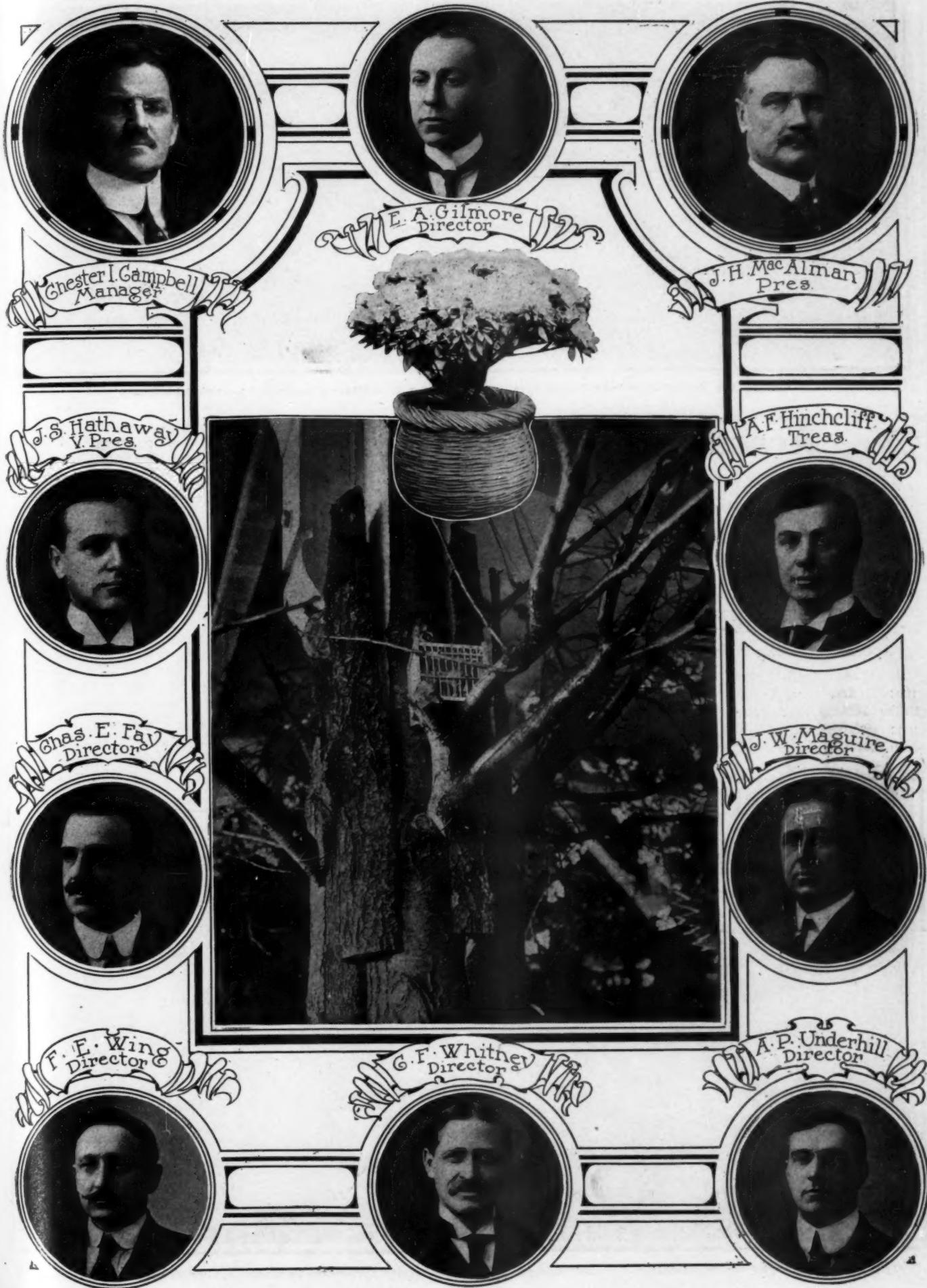
Attractive Maxwell in Pure White with Striping and Seat Covers in Soft Gray

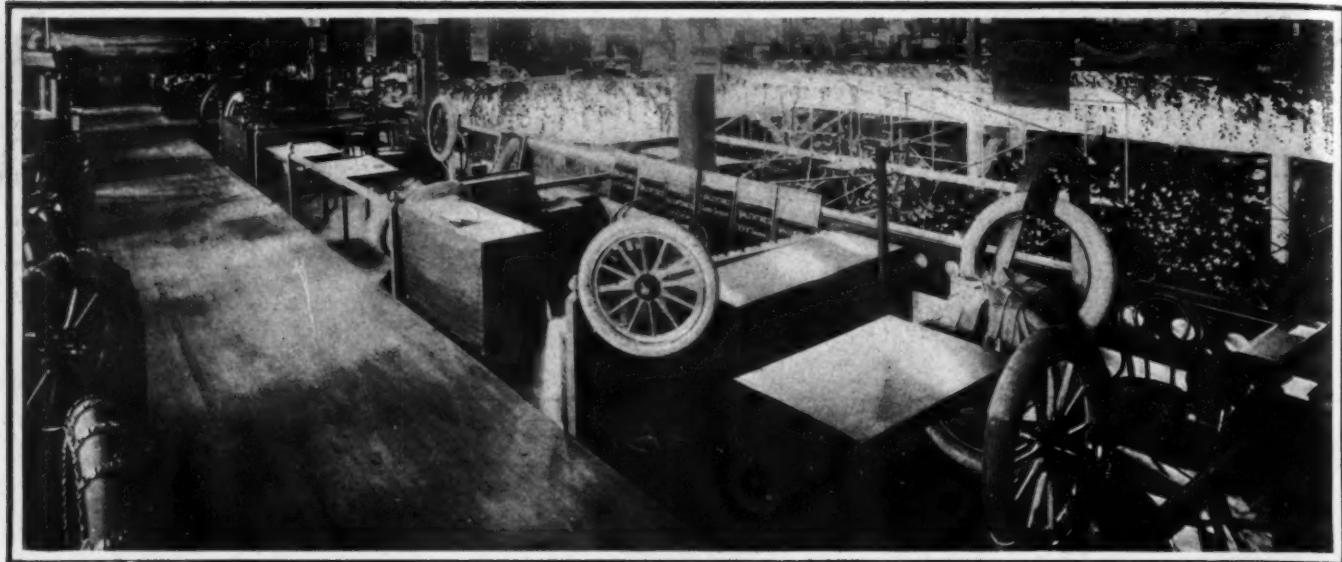


Chalmers and Hudson Exhibit, Including the "Bluebird," Massapequa Winner



Commercials come next.





Around the Galleries, Where Many Tire Manufacturers Exhibited; Foreground Occupied by Bragg

Accessories Occupy a Prominent Place

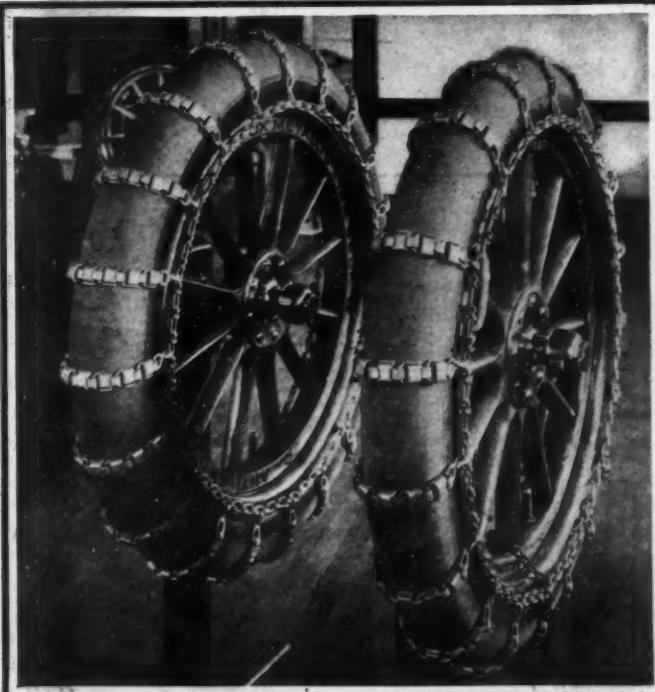
THE statistics of the automobile industry, excepting in a limited way, have been compiled with a view to picturing the automobiles complete, and little has been said about the accessory makers, who depend upon the automobile proper for returns. The makers number slightly under 300, not counting a hundred or more embryo propositions. Neglecting the embryos it may be stated that the 300 makers of cars on a more or less large scale support accessory companies about as follows:

ACCESSORY MAKERS SUPPORTED BY AUTOMOBILES

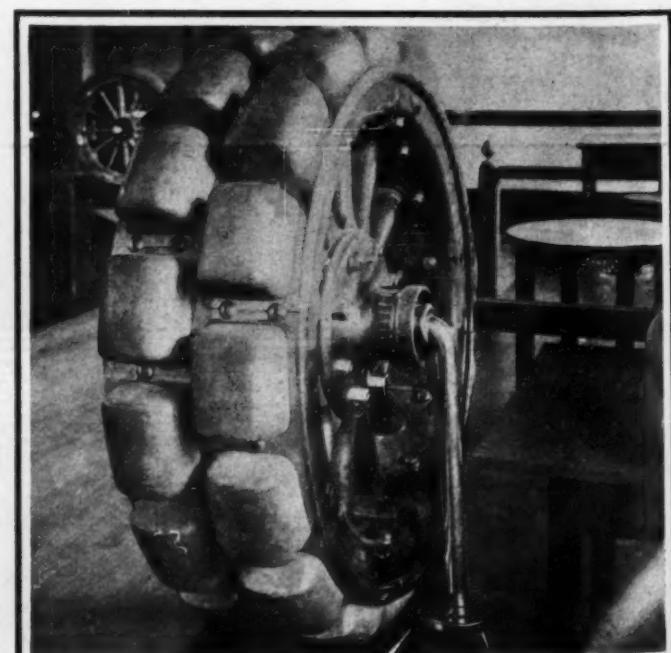
Tops, 140; Spark Plugs, 133; Aluminum and Brass Castings, 160; Bodies, 172; Axles, 55; Ball and Roller Bearings, 152; Brake Linings, 24; Batteries (dry), 61; Batteries (storage), 104; Bumpers, 22; Carburetors, 84; Chains (sprocket), 11; Non-skid Chains, 24; Clutches, 30; Spark Coils, 52; Commuta-

tors, 14; Crankshafts, 35; Dashboards, 40; Fans, 20; Carburetor Parts, 12; Drop Forgings, 98; Frames (chassis), 14; Gear Blanks and like parts, 35; Transmission Systems, 72; Mudguards, Aprons, etc., 60; Tire Holders, 52; Lamps (gas), 36; Lamps (oil), 28; Lamps (electric), 12; Mechanical Oilers, 18; Magnetos (some imported), 63; Motors, 80; Mufflers, 32; Foot Pedals and like parts, 19; Radiators, 32; Suspension Springs, 45; Valves and Mechanism, 42; Road Wheels (wood), 24.

The above list is an approximation which does not include a great many manufacturers in a small way who confine their efforts to work which is farmed out. It would be impossible to state the percentage of the total work which is accomplished by the farming process and which keeps many small shops constantly engaged, but it might be reasonable to assume that 20 per cent of all the accessory work is done in this way. It is all accomplished by sub-contractors who do not resort to publicity.



Tire Chains Shown by the Fox Metallic Tire Belt Company



Kelly-Springfield Sectional Rubber Tire for Heavy Duty

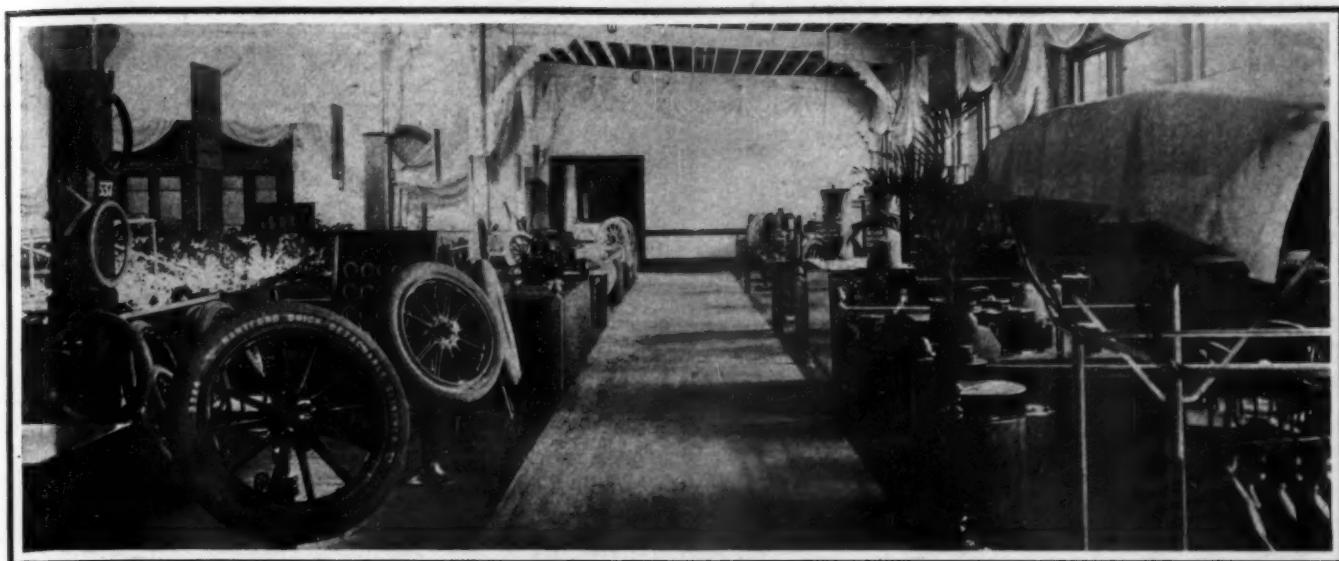
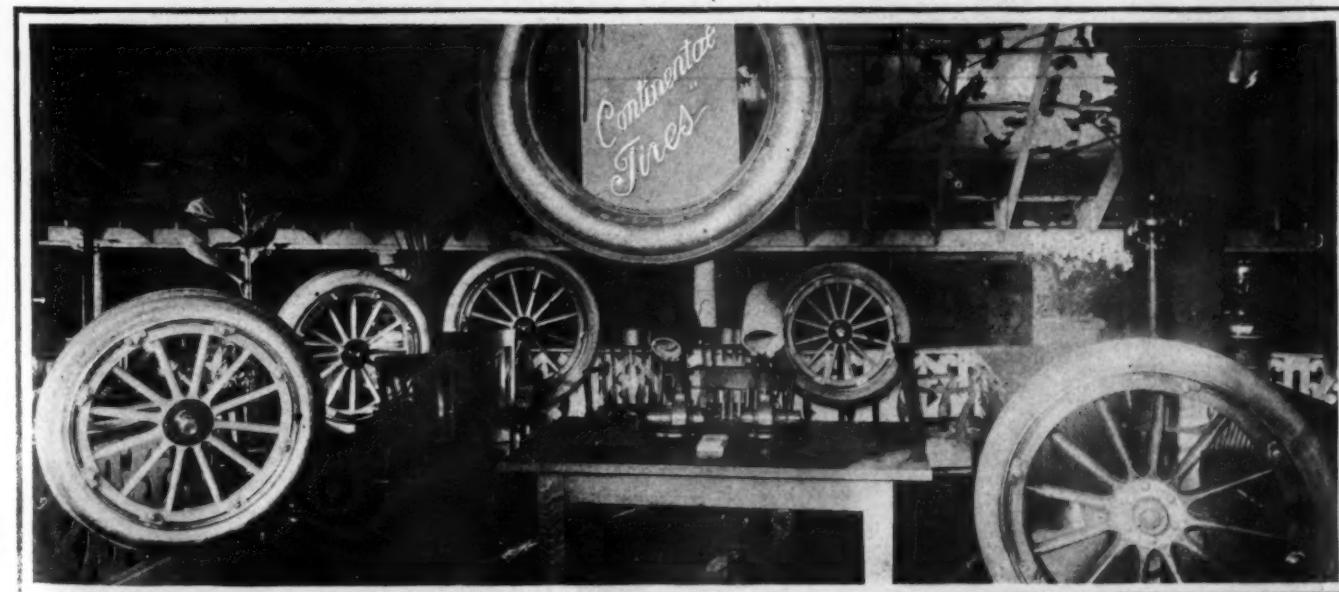


Exhibit of Hartford Tires Comprised Various Kinds of Detachables and Demountables, Besides Sections



The New Demountable Rim Was the Central Feature of the Firestone Stand, Surrounded by Other Types



Continental Tires Had to be Hung from the Ceiling to Find Space for Them All; Sections Also Appear

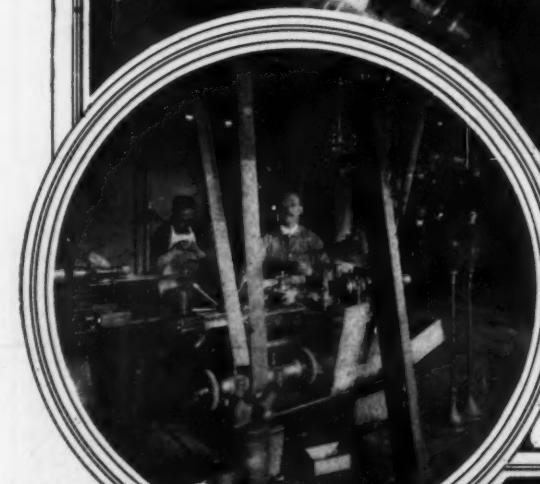
Seen in
BOSTON
FACTORIES



La Pointe
Broaching
Tool at work



Machining
Kilgore
Parts



Turning up
parts for
Hoffecker
Speedometers

Assembling
room in
Dover
Plant



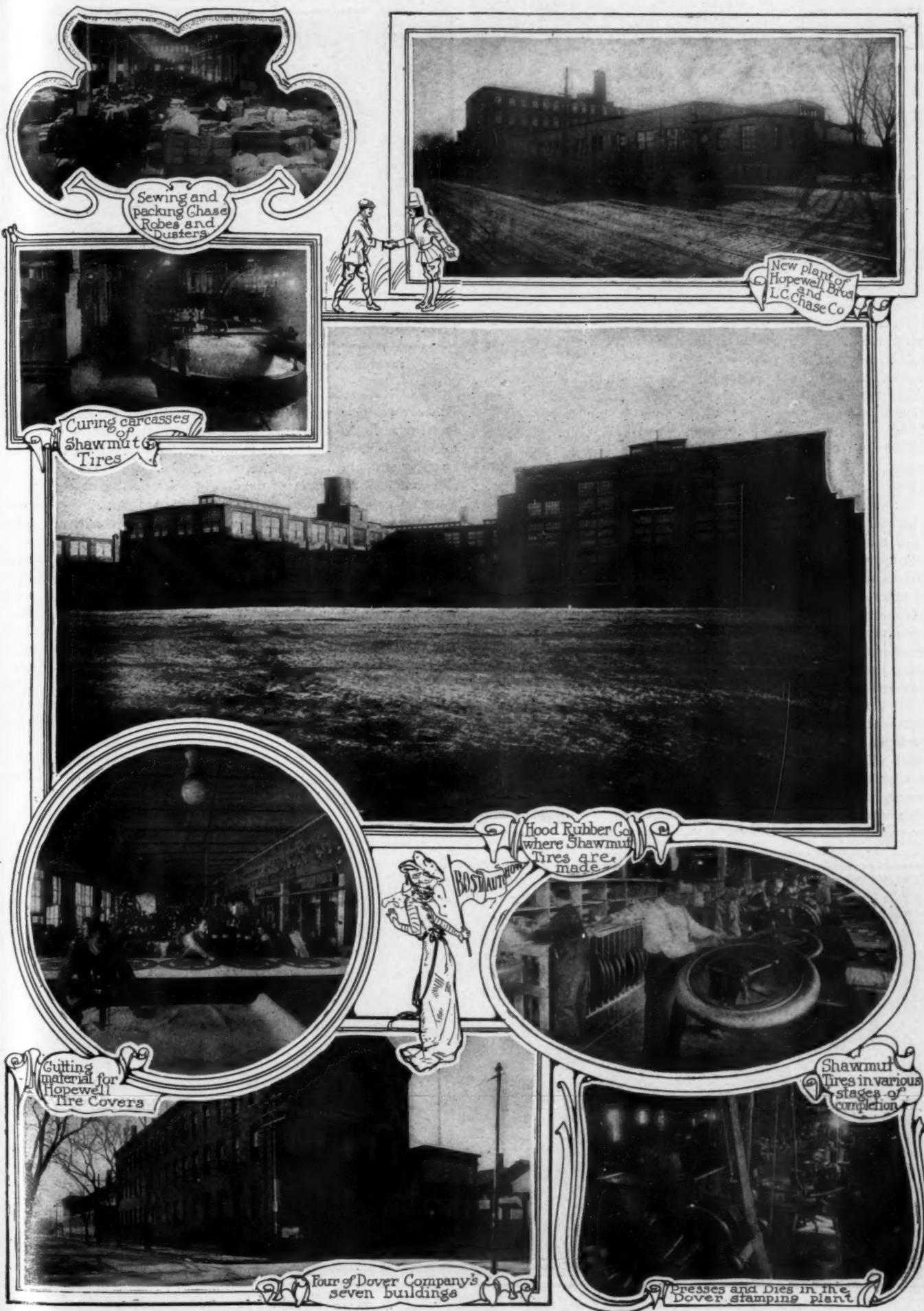
In
Hoffecker
finishing
room



Flentje machine shop
packing piston rods



Preparing Boston Show
exhibit in Kilgore factory



BOSTON and its encircling cities and suburbs produce many articles which the automobilist uses daily. True, the Hub was never named with regard to the automobile industry, and to many it may seem strange to think of the city of culture as a center of busy factories and salesrooms. The visitor will soon learn his mistake. Automobile row, on Boylston street, will not suffer by comparison with the other automobile rows on Broadway and Michigan avenue; and in the number and importance of its manufacturing plants the Bay State capital assumes a high rank.

Twenty minutes' ride by trolley from Mechanics Hall, in Cambridgeport, is the plant of the Dover Stamping & Manufacturing Company, from which come funnels, oil cans, tanks, drip pans and many other manufacturers of sheet metal. Every housewife knows the Dover egg beater, and the Dover line of automobile accessories is almost as proverbial in its excellence.

Back in 1833 the Dover Stamping & Manufacturing Company was first organized in Dover, N. H., taking its name from its native town. Successive enlargements finally ended in the establishment of the present plant in Cambridgeport, on Putnam avenue. It occupies a group of seven buildings. The largest, which houses most of the heavy machinery, is a three-story brick structure 43 by 155 feet, standing on the corner of the block. Extending in line with this are two other frame buildings, one of two stories, 40 by 125 feet, and one of one story, 32 by 82 feet, used for galvanizing. At the side of the main building is the office, and in the angle thus formed is the power plant, 45 by 42 feet; a brick tinning room, 61 by 31 feet; a three-story brick forge shop, 73 by 30 feet, and stables and sheds.

On the first floor of the main building are several presses, each approaching 15 tons in weight, for drawing sheet metal into various forms. These are capable of shaping a bowl two feet in diameter and eight or ten inches deep out of a single piece of flat sheet metal, the resulting product being without seam and smooth and flawless in its texture. Here, too, are a half-ton drop hammer for stamping out parts which in general contour are flat, and a multitude of cutting dies for those articles which must be built up of several pieces.

The roughly formed parts are taken from their dies and presses to the assembling room on the second floor. Many ingenious machines form the equipment of this room. There is a seamer which will take the stamped-out bottom piece of a gasoline pail or a graduated can and apply it to the body of the vessel far more quickly and neatly than the most skilled hand worker. Another binds the stiffening wires around the tops of pails and funnels, and turns the sheet metal back smoothly over them.



Monarch Shock Absorber Applied to a Packard Car

Other machines, resembling ordinary lathes, but with blunted tools, true up the cylindrical and conical parts. Finally the pails and funnels are taken to the finishing room to have their handles and spouts applied.

Although the product of the Dover works, as intimated above, is by no means confined to automobile accessories, the attention which the company is paying to this end of its line may well be demonstrated by the ingenuity and novelty of the articles for automobile use. Pails and funnels in themselves are simple things, but the Dover company has a combined pail and funnel which does away with one pouring of the gasoline. It is a funnel provided with an automatic valve, which is normally closed, but opens when the funnel is set into the filling hole of the tank. A ball, which seats in the bottom of the funnel, with a stem projecting through the nozzle, and a spider on the end of the stem, with arms bent back over the outside of the nozzle, so that the funnel rests on them while in the filling hole—these do the trick. Incidentally, they provide an air vent, and so still further facilitate filling.

For garage use there are funnels of a bowl-like shape, a foot or more in diameter, and holding a couple of gallons. Their particular beauty is that the chamois strainer in the bottom is the full diameter of the bowl, and as the speed with which a tank can be filled depends usually on the rate the gasoline strains



Inspecting Room of the Hopewell Brothers' Factory at Newton, Where Hopewell Tire Covers Are Made



After 65,000 Miles on Flentje Shock Absorbers

through the chamois, time is economized still further. Space does not permit description of the many other funnels, gasoline cans, oilers and such articles from the Dover plant, save only an offset funnel which will be found useful on many cars with gasoline tanks hung from the frame in the rear. For the rest, the automobilist may be assured that anything else in this line can be had with the Dover trademark.

Turn now to another article of an importance best realized when a tire bursts miles from a garage—as tires still will do. When this misfortune befalls, lucky is the automobilist who has carried his spare shoe in a waterproof case, and so has it firm and sound to take the place of the one that has failed. Tire cases, and especially waterproof ones, are the province of Hopewell Brothers, who have just moved into the new factory in Newton, which they occupy in conjunction with L. C. Chase & Company's robe manufacturing department.

In the equipment of this new brick building no trouble was spared to secure the most modern tools and appliances. Electricity is used throughout, both for lighting and as motive power. One ingenious application of the electric current is found in the knives by which the fabric for the tire cases is cut according to pattern. These work vertically, being reciprocated by the little motor on top of the device; under the guiding hand of their operators they eat their way through 40 thicknesses of the heavy coated fabric as easily as a tailor cuts his cloth. The fabric comes

in such lengths that five of the circular halves can be cut from each piece, and as 40 pieces are cut at once by a single movement of the knife, that means 200 halves, or 100 complete cases.

A whole battery of sewing machines is employed to sew together the halves and hem their edges with the endless coil springs in place in each hem. These springs are the feature of the Hopewell case which makes it waterproof. It will be understood that the finished case is but a single piece, without straps or flaps; it is simply a cylindrical piece of fabric with a slender coil spring on each edge tending to draw it into the annular shape of a tire. When it is wrapped around a tire, the coil springs draw the fabric down on all sides with an even tension, smoothing out all wrinkles and making their overlap waterproof.



How the Kilgore Shock Absorber Looks on a Matheson

Springs for these cases are quite an item in themselves. These are about a quarter of an inch in diameter, and of lengths suitable to the size of the tire which the case is to fit. The springs for each case weigh about half a pound, and some idea of the quantity of the output can be gained from the fact that 2,500 pounds of springs are used in a week. Half a mile of fabric is cut up in the course of a normal working day.

After the cases are finished they pass through a rigid inspection, both for finish and for dimensions. In cutting the fabric, the pattern is followed within an eighth of an inch. The case, after being sewn up, must be within a quarter of an inch of the correct circumferential length. Slight errors, of course, are taken up naturally by the springs; and besides, the dimensions of



Shawmut Tires, Both Shoes and Inner Tubes, Undergo a Rigid Inspection Before Leaving the Factory



Finishing Room of the Dover Plant, Where Spouts and Handles Are Fitted to the Buckets and Funnels

the tire cannot always be depended on for extreme accuracy. Patterns in most cases are based on the sizes of the standard rims, but many special cases are met with, especially since the vogue of the demountable rim. One of the latest products of the Hopewell factory is a cover to fit a Stepney spare rim and tire, with the clamping bolts all in place.

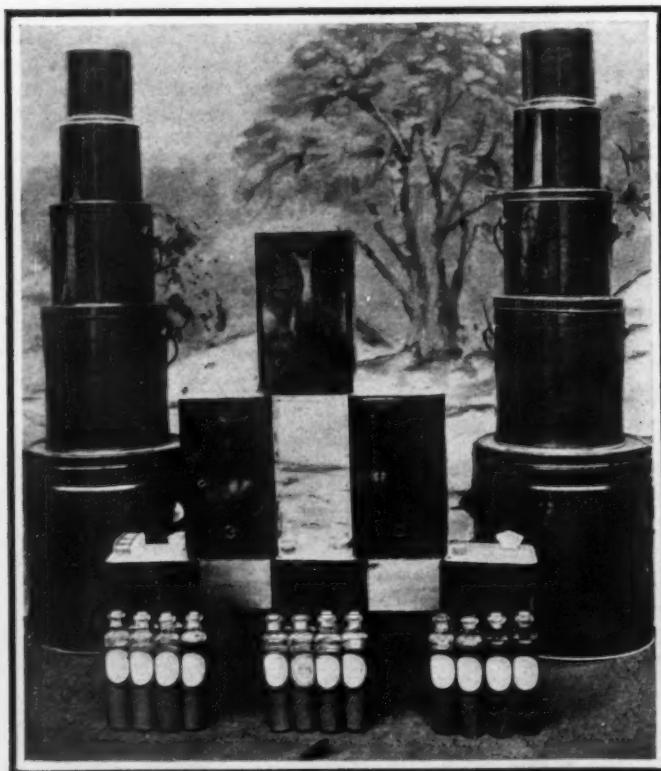
Business in Hopewell tire cases showed last year an increase of 250 per cent. over the year preceding, and the first two months of 1910 have yielded another 50 per cent. on the final figures for 1909. The capacity of the new factory, with its present equipment, is 50,000 cases a year, but arrangements have been made to triple this, increasing by degrees as necessary without disturbing the daily routine. For instance, the sewing machines are arranged in groups of five, mounted on a single table with an

electric motor to drive them, and the groups can be moved around to suit the needs of the moment.

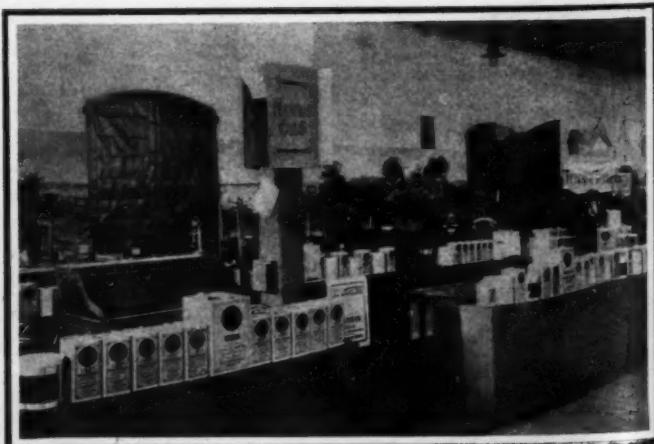
From tire cases it is a natural step to tires, and from the Hopewell factory in Newton it is but a short journey to the home of the Shawmut tire, in Watertown. The Shawmut Tire Company occupies a part of the enormous plant of the Hood Rubber Company, whose product is world-wide in its use. The advantages of the arrangement are obvious.

The manufacture of a tire is one of the most interesting processes in the automobile industry. The first wonder is that it is possible to make a slender bandage of a vegetable gum, inflated with air, which will support a two-ton mass of steel moving at velocities of a mile, or two miles, a minute. In the Shawmut factory each step of the process may be followed. The base on which the tire is molded is a heavy ring or core of cast iron, shaped to the proper size for the interior of the shoe. For the workman's convenience this is mounted on a hub with three adjustable spokes, which may be screwed out until they clamp it firmly. On this as a foundation the carcass is built up with successive layers of rubber and fabric, each rolled down until it becomes an integral part of those underneath.

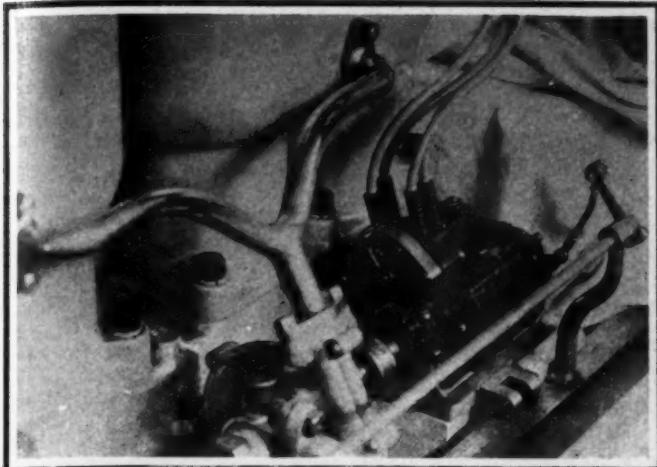
The next step of the process is the vulcanizing. For this the carcass is put in a cast-iron mold, covering it completely, and with a number of other carcasses in similar condition is placed in an oven, carefully heated by steam to the desired temperature. This is the most lengthy process, as the heating lasts for six hours.



Motorol's Show Exhibit against an Artistic Background



Harris Oils Had a Comprehensive Exhibit at the Show



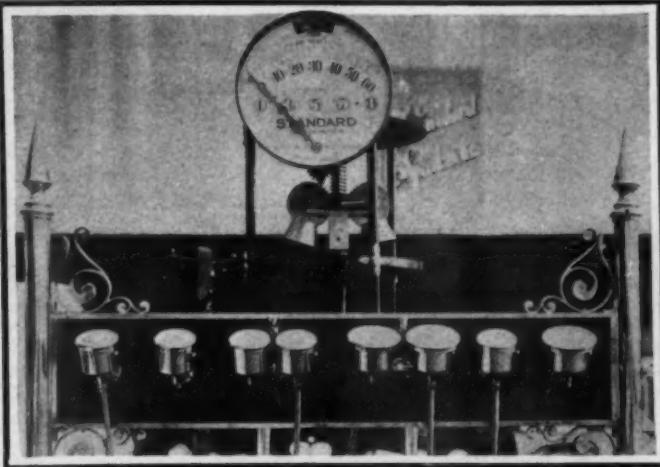
Mea Magneto, a New England Product, on a Parker Motor

From the vulcanizing ovens the carcass is again taken to the workbench to have its tread wrapped on. This is of a grade of rubber differing greatly from that which forms the carcass; whereas the latter is compounded for resilience, the tread is compounded for toughness and wearing qualities. This tread layer applied, a second plunge into the oven gives the final cure. For this the tire, now complete, is wrapped in coarse sacking and exposed in live steam under the proper conditions of temperature and pressure. Metal molds, if used in this last operation, would be likely to burn the rubber; hence the exposure to the steam direct.

The equipment of the Shawmut plant comprises a number of ovens, of both the horizontal and the vertical types, and ranging in capacity from seven to twenty-five tires at one loading. Overhead trolleys are provided for handling, this being especially necessary for the first vulcanizing, in which the molds are used, as the weight of the molds ranges from 1,000 to 1,400 pounds.

Shawmut tires are now entering upon their third season on the market. The growth of the company and the increase in the quantity of its product has been normal, though rapid. At present the capacity is 100 tires a day; although this does not entitle it to a rank among the giants of the industry, it is no small figure, as it means a total value of output of \$1,000,000 a year. In addition to its separate equipment for such processes as concern tire making exclusively, the Shawmut company has all the facilities of the Hood Rubber Co. in the production of raw materials.

Within a few blocks of Harvard University, in Cambridge, Ernst Flentje has located the machine shop in which he makes the Flentje "shock preventer." His invention was the outgrowth of tests and experiments made with the idea of improving the



Show Exhibit of Standard Speedometers Was Interesting

riding qualities of his car, which he found very uncomfortable on rough roads. At the time he had no intention of putting the device on the market, but at the solicitation of friends who had ridden in his car he made and attached a number of sets. He finally undertook to manufacture them in quantities and offer them for sale, and patented the device in September, 1908.

The principle on which the Flentje shock absorber works is familiar to all. It is, generally speaking, a hydraulic device; the liquid used is glycerine. A cylinder, filled with glycerine, is attached to the axle of the car, at each spring seat; in the cylinder works a piston, with suitable perforations for the passage of the glycerine from one side to the other. The piston rod is attached to the frame of the car. Both cylinder and piston rod are, of course, attached in such manner as to allow the sidewise movement due to the swaying of the car body.

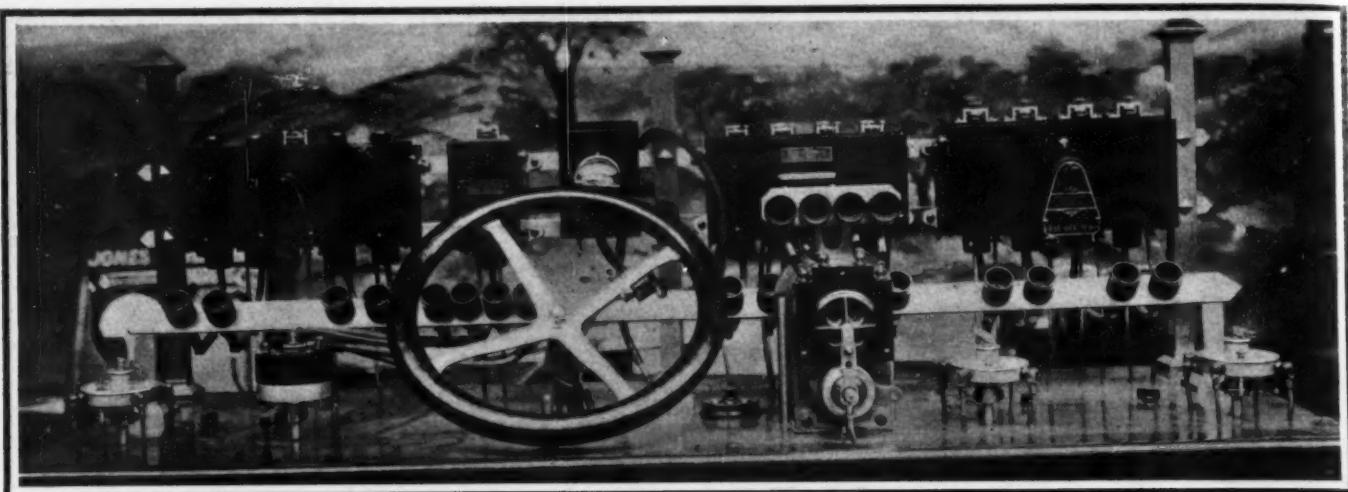
Any vertical movement of the car body and frame relative to the axles must result in a movement of the piston within the cylinder, and the consequent passage of glycerine from one side



Emil Grossman's Spring-Actuated Reel for Top Cables



At the Show; the United Manufacturers' Varied Exhibit



Connecticut Electric Company, from Meriden, Conn., Had a Good Exhibit of its Ignition Appliances

of the piston to the other. As glycerine is practically non-compressible, the movement is limited by the rate of its passage through the perforations in the piston. The proper size of the perforations can be determined once for all for a given car.

For the manufacture of these shock absorbers Mr. Flentje built a good-sized machine shop in the rear of his Cambridge residence, but the growth of the business has since forced him to have a large part of the machine work done in another Cambridge shop, where good facilities have been secured. The home shop does the lighter work, including the assembling, the insertion of the piston-pin packing, the finishing and final inspection. The construction is solid and substantial; the cylinder and end pieces are of bronze, and the piston and rods of steel.

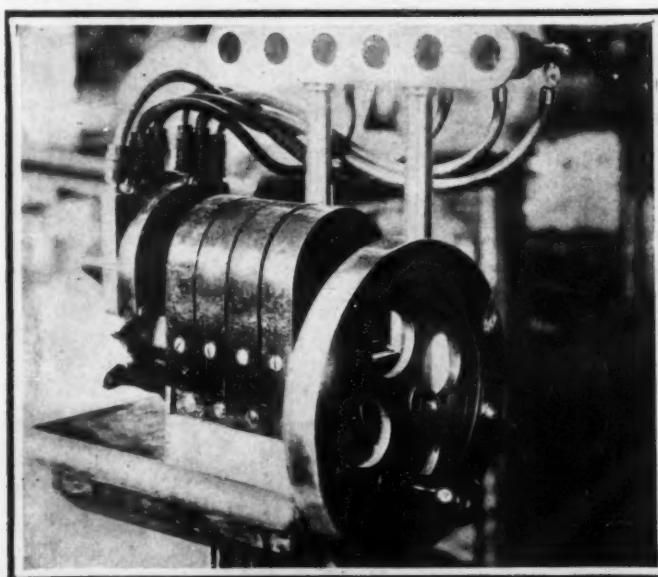
Doctors are generally supposed not to like their own medicine; but the saying does not apply to this case. Mr. Flentje's own car, which has a record of 65,000 miles, witnesses the fact that this inventor uses his own invention and enjoys it.

The Hoffecker Company, manufacturer of the speedometers with the "steady hand," has a commodious shop in the Motor Mart, a large building on Park square, Boston, exclusively devoted to the various industries connected with the automobile. The company has its offices and a large machine shop on the second floor, and an assembling and inspection room on the third floor. The machine shop is well equipped with the necessary drill presses and lathes; these are mostly light tools, as the work on the small speedometer parts resembles closely

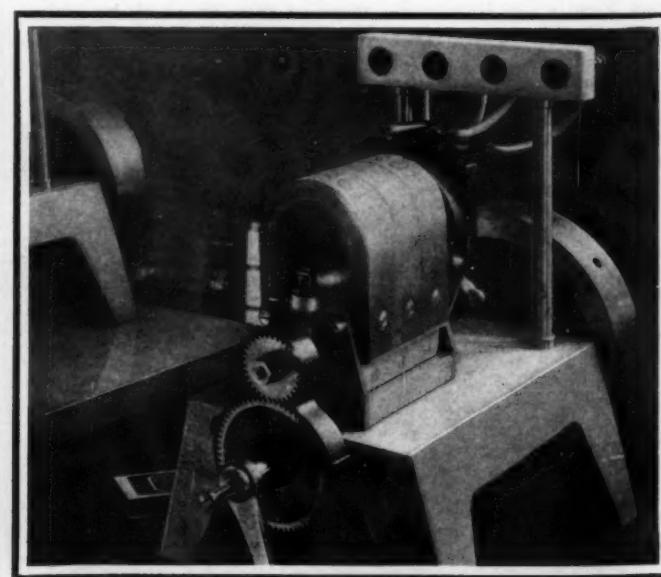
the operations of watch making. An exception, however, is a 6500-pound punch used for stamping out the top plates complete, with all perforations and bearing seats. This results in a great economy of labor and expense, as compared with hand work, and the finished product has the additional merit of being exactly to size and interchangeable.

The assembling department has a light and airy room, adapted to securing the best results in the way of careful and conscientious work. Micrometers are much in evidence here, showing the accuracy with which the parts are fitted. Highly skilled workmen are employed for this, and the analogy to clock-making is carried still further. When the instruments are assembled the dial is put on and calibrated by hand, each instrument separately, so that all are absolutely correct in their readings. After the case is put on and the final finishing done, another test is made before the instrument is allowed to pass to the sales department.

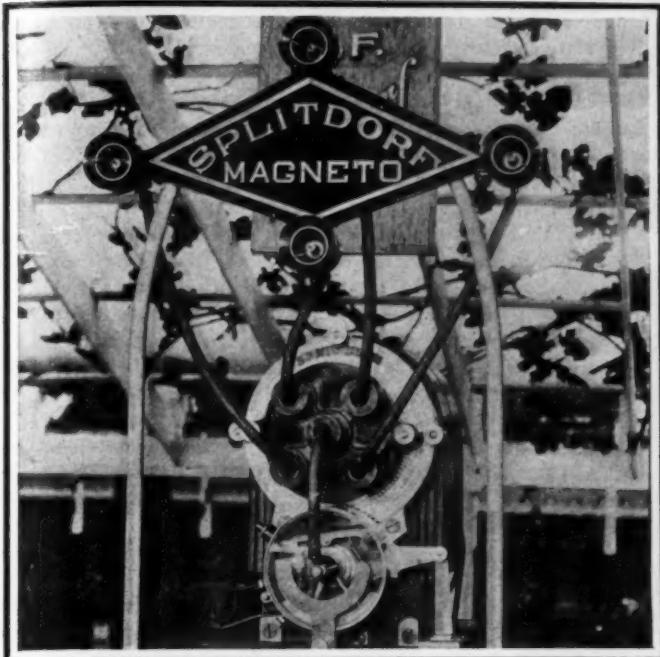
All Hoffecker speedometers operate according to the principle of centrifugal force, in the same way that the speed of a stationary steam engine is regulated. The front wheel of the car, through a flexible shaft, drives the "expander," a miniature ball-type governor. The indicating hand is absolutely controlled by this governor, which is built on correct principles, perfectly balanced and running on ball bearings. The special feature of the Hoffecker, however, which is covered by exclusive patents, is the lever connection between the governor and the indicating



Eisemann Magneto Exhibit for Hand-Power Demonstration



Bosch Exhibit Was Interesting to All Who Passed By

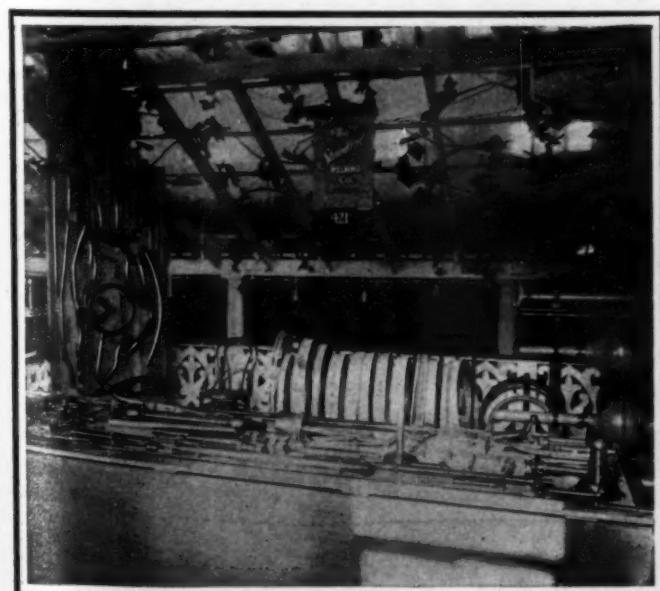


Ingenious Working Exhibit of the Splitdorf Magneto

hand. The connection is controlled and interrupted by these levers in such a manner as to prevent the vacillation of the hand from any cause other than an actual change in the speed.

Hoffecker speedometers have a distinctive appearance, being cylindrical in shape and set with the dial end up, the fixture attaching them to the dashboard being arranged so as to give them an angle convenient for reading from the seat. The flexible shaft is connected through bevel gears at one side. The dial has another distinctive feature, in that the odometer trip mileage is indicated by a hand moving over a circular scale, concentric with the speedometer scale.

Another shop located in Boston proper, the product of which is familiar to most automobilists, is that of the Kilgore Mfg. Co., at 9 George street. Here the Kilgore pneumatic shock absorbers are made. A complete equipment of machine tools permits the manufacture of all the parts entering into this device. The materials used are Government specification bronze, for the cylinder and piston; cold-drawn seamless brass tubing, for the outer shell or mud shield, and tool steel castings for the brackets and clamps.

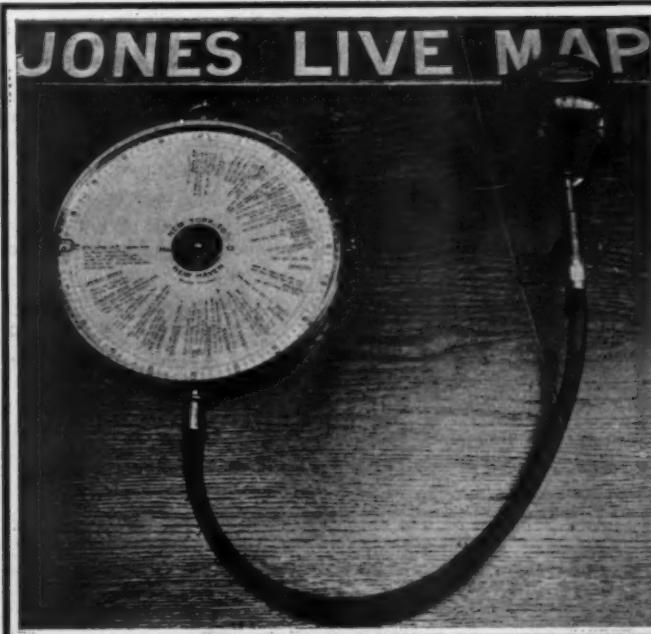


Standard Welding Company Showed Axle Casings and Rims

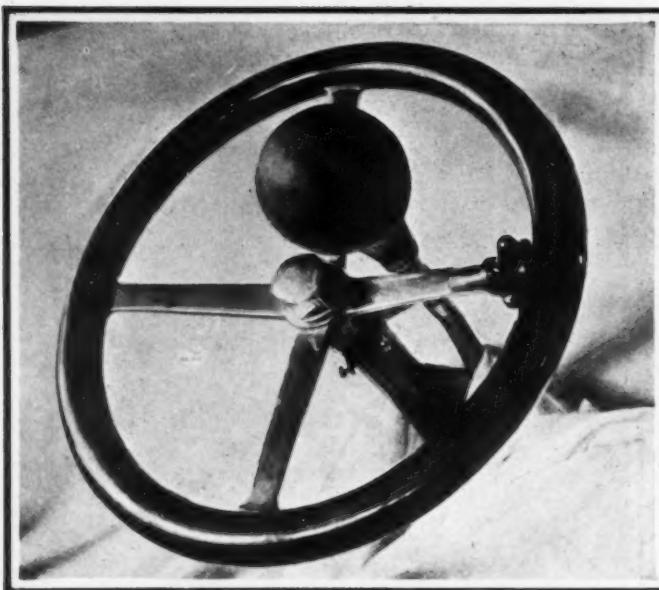


Pyramid of Hoffecker Speedometers of the "Steady Hand"

The operation of the Kilgore device depends on the elasticity of the air with which the cylinder is filled. The cylinder, to start with, is attached to the axle, and the piston to the frame of the car. The piston is solid, without holes opening from one side to the other. Were this all, a progressively increasing resistance would be secured to any movement of the spring in either direction. But such a resistance is not desired; what is really wanted is to leave the spring movement free for a considerable distance up and down, before the resistance is added. For this purpose a by-pass passage is provided in the cylinder wall which allows the air to move from one side to the other with considerable freedom when the piston is near the center of the cylinder; but a further movement of the piston covers up the opening, and the air thus entrapped between the piston and the upper or lower cylinder head, as the case may be, is compressed until the movement is checked. The by-pass is adjustable for area, and as it is quite small in proportion to the cylinder area, a considerable resistance is still interposed to any



Jones "Live-Map" Was a Drawing Card, As Often Before



Lancia Steering Wheel showing a rotary star shaped member concentric with one of the arms adjacent to the rim by means of which the mixture is adjusted to suit the requirements—ignition is fixed and requires no controlling lever

too rapid movement of the piston, even when near the center. A very good feature of the Kilgore is the double protection afforded against dust. The piston rod, besides being provided with the usual packing, is enclosed in a flexible leather boot, like that used on the drive shaft universal joints; and outside of this is a light brass shell which slides over the outside of the cylinder, and is provided with another packing ring.

Above the machine shop floor of the Kilgore factory are the assembling room and stock room. The shock absorbers are made in three sizes, the $2\frac{1}{2}$ -inch (cylinder diameter) for cars weighing not over 2,000 pounds; the 3-inch for cars weighing up to 3,000, and the $3\frac{1}{2}$ -inch, for very heavy cars. Thus a considerable number of parts must be kept in stock. The company had a very handsome exhibit at the Boston show, the feature of which was a stand hung with the different sizes of shock absorbers in polished brass, against a background of maroon.

For some unknown reason no dry-cell factory had been established in New England until the Universal Carbon Company brought out the "Diamo" brand, and built its factory at Ashland. This new plant has 120,000 square feet of floor space, and a modern equipment of machinery. Contrary to the usual practice, which calls for a large amount of hand work, the "Diamo" cells are made almost entirely by machinery, this being necessarily of several special designs. In this way uniformity and reliability are guaranteed.

Great care is taken to secure the best of material for the cells, and careful analysis is made of all, to secure them as nearly as practicable chemically pure. One test made quite recently by the Massachusetts Institute of Technology on the carbon used revealed that it was practically pure carbon; on ignition it left a residue of 0.10 per cent, consisting of silicia and traces of iron. In other words, the carbon was 99.9 per cent pure.

Casgrain speedometers, another distinctively New England product, have their inception in the factory of the Couch & Seeley Company, at 10 Thacher street, within a few blocks of the North Station in downtown Boston. Much stress is laid on the length of the scale of these speedometers, being no less than 28 inches, and on the fact that there is an individual number on the scale for each successive mile per hour, from 1 to 65. The instruments are calibrated and the numbers applied by hand, and the calibrating stand is a most interesting feature.

An electric motor drives through friction wheels a shaft which in turn drives six speedometers. The friction wheels are similar

in arrangement to those used for changing the gear ratio on several well known makes of automobiles; one large face wheel is on the motor shaft, and a smaller wheel is mounted on the side shaft with its periphery against the face of the other, in such a manner that it may be slid back and forth to vary the speed of the side shaft. Of the six speedometers driven from the side shaft one is the master instrument, calibrated originally from a tachometer.

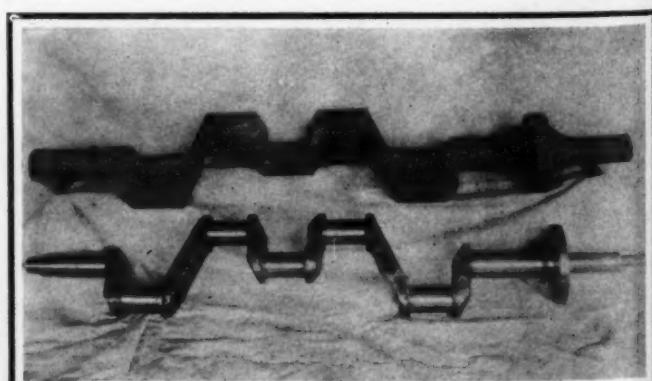
Given this equipment, the process of calibrating becomes very simple. The man in charge adjusts the driven friction wheel to a position quite near the center of the driver, to give a low rate of speed, until the master instrument reads one mile an hour. All the other speedometers are then turning at exactly the same speed, and the figure 1 is affixed to their scales at the spot indicated by the pointers of the instrument. Then the driven friction wheel is moved out a little further until the master speedometer reads two miles an hour, and the figure 2 is affixed to the scales of the other five. The process is continued for every figure up to 65, which is as high as the standard Casgrain reads. The figures are about $\frac{3}{8}$ -inch high.

Naturally it is a matter of interest how the makers of the Casgrain are able to obtain room for such a scale on an instrument of any reasonable dimensions. The answer is that the figures are placed spirally around a cylinder, which moves to correspond with the speed and brings the figures in succession before a window in the outer case of the instrument. The row of figures encircles the cylinder four times, and a brief calculation will show that the diameter of the cylinder itself, for a 28-inch scale, need be only a little over 2 inches.

The cylinder bearing the figures is rotated by liquid friction. Inside of it turns a shaft with paddle wheels, which carry along with them the liquid with which the case is filled. The cylinder has no direct mechanical connection with the shaft or paddles, but is turned by the friction of the liquid against its inner surface, against the tension of a spring. The force exerted by the friction is of course proportional to the speed of the inner shaft, which is driven by the usual connection with the front wheels. The design is such that there is not the slightest possibility of any of the liquid leaking out or evaporating.

Oil guns, grease guns and gasoline tank gauges, in addition to the "Jericho" horn, come from the Randall-Faichney Company's factory at 251 Causeway street. The latter differs from most exhaust horns in that it is always attached to the rear of the muffler, on the end of the exhaust outlet, and so its application does not require cutting the pipe. The horns simply clamp on, and ordinarily does not obstruct the free passage of the exhaust gases. When a hay wagon obstructs the road, however, the driver simply presses a pedal, which closes up the main outlet and diverts the gas through the horn, with effective results.

Another Randall-Faichney product is the "Webster" gauge, a float-operated device. The float is attached to a horizontal shaft, which turns the vertical indicating shaft by means of a



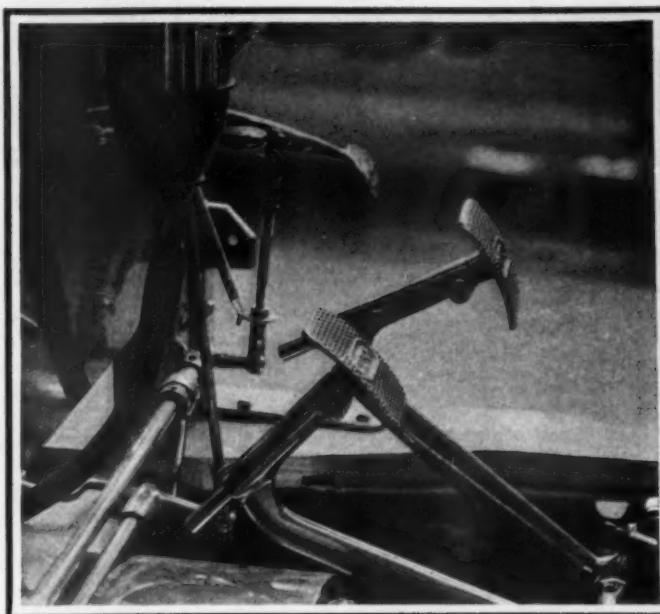
Examples of crankshafts, one of which is an original steel casting, the other being a finished crankshaft. This illustration is offered to indicate the advances which are being made in steel casting work, although there must be a speculative condition

crown gear and pinion. The gauge is attached without soldering, and may be done without emptying the gasoline from the tank. The line of "B-rail" oil guns is too well known for comment.

The "Monarch" shock absorber depends for its absorbing and checking action on the pressure of a heavy coil spring against a cam which is rotated by any movement of the car frame relative to the axle. The cam is mounted on the frame, and is connected to the axle by a crank and connecting rod. A hardened steel plunger, backed by the coil spring, bears against the face of the cam. On that part of its face which the plunger bears against when the springs are in normal action, the cam is perfectly round, and so no resistance is offered to any movement of the springs a slight distance either side of center. A continued movement, however, brings the cam into action on the coil spring.

When the springs are in normal condition, the crank is horizontal, and so the axle has the greater leverage against the spring; but as the car moves up or down, its leverage decreases, until finally, in the case of a very violent shock, the crank is on dead center, and so brings the spring movement to an absolute stop. It is claimed to be impossible to break any spring fitted with this shock absorber. Charles M. Green, at 1036 Old South Building, Boston, acts as general distributor.

A gasoline tank gauge which works by magnetism is made by the Boston Auto Gage Company, at 8 Waltham street, under the trade name of the "Triumph." The noteworthy feature is the absence of any opening between the inside and outside part of the gauge. There is a vertical brass tube inside the tank, with a metal float inside which works in a spiral slot in such manner that it must revolve as it moves up and down with the



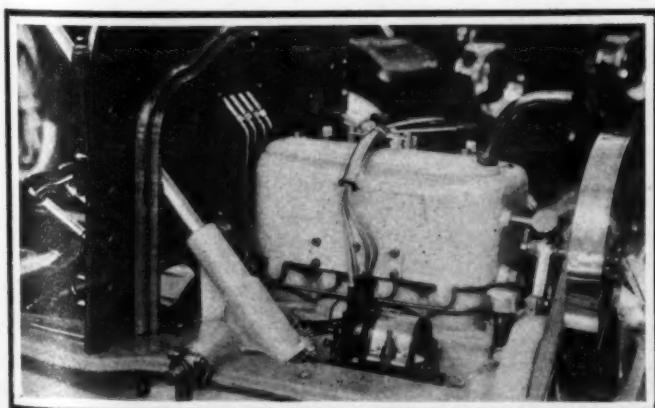
White foot pedals showing the means of adjustment whereby the operator is enabled to lengthen the pedal stems to suit his own individual requirements; also the accelerator pedal and the connections of the Bosch dual ignition system

varying level of the fuel. The indicating part of the gauge is entirely separate. Magnetism makes the connection between the two. If the glass over the indicating hand and scale should be broken, there still could be no escape of gasoline or air pressure.

Some Features the Camera Caught at Boston

NOVELTIES at Boston were no fewer or less important than at the New York shows. New England is well recognized as the home of inventors, and new ideas keep cropping up there quite frequently. What was perhaps the most important new development was not a product of New, but of Old England.

After several years' absence from the American market, the Napiers made famous by S. F. Edge, the world's champion publicity man, bowed anew to the Boston enthusiasts. The famous English firm is now represented in Boston, for the United States, by British Napier Motors, Inc., at 47 Union avenue, Jamaica Plain. These cars were the first to adopt the six-cylinder motor, but after using this type exclusively for a time, found it necessary to bring out two- and four-cylinder models in order to cover the whole field. The Napier line now consists of a 10-horsepower, two-cylinder, a 15-horsepower, four-cylinder, and six-cylinder cars of 30, 45, 60, and 65 horsepower.



White Steamer showing the right side of the motor of the block type, nesting of the magneto, adjustable fan bearings, and the location of the steering gear housing with the arm passing above the chassis frame

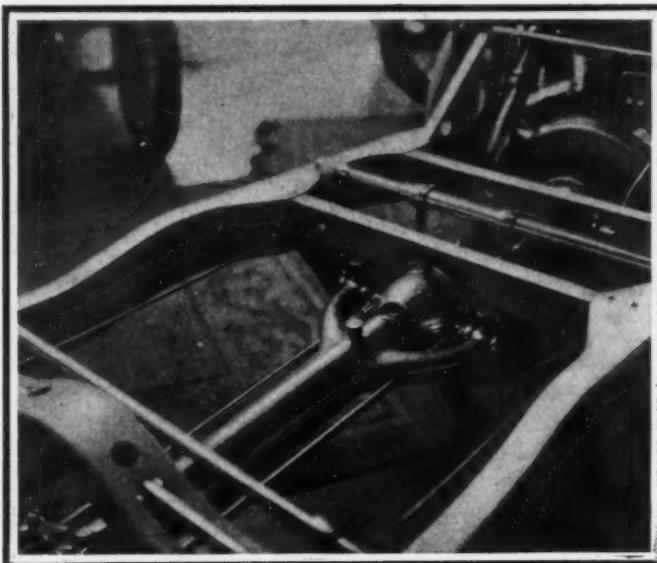
The two- and four-cylinder cars are especially adapted for town work. They have the unit form of construction, the gear case surrounding the clutch and bolting to the rear end of the crankcase. The flywheel is placed in front. Cylinders are cast in pairs, with all valves on the left side. The distinctive Napier hood and radiator, the latter with its long tubular filling cap, are found on these small cars as well as on the sixes.

The 15-horsepower model finds extensive use in London as a taxicab, being found very satisfactory and economical in this service. This chassis, as well as the two-cylinder, also makes a good light delivery wagon.

A prominent feature, and one which quickly caught the eye of the visitor as he entered the show, was the new Herring-Burgess aeroplane hanging from the ceiling. This air-craft is the design of A. M. Herring, formerly the partner of Glenn Curtiss, and was built by W. Starling Burgess, the yacht-builder of Marblehead, Mass. In its detail it shows the effect of the mariner's training and instinct, being far superior to the majority of aeroplanes. This aeroplane also has the distinction of being the first to fly in New England.

This flight was made at Hamilton, February 28. It was regarded as of great importance because it constituted the first trial of Mr. Herring's device for insuring automatic stability. The start was not attempted until late in the afternoon, owing to the rain and wind. About 5 o'clock, after a short preliminary run of about 90 feet, equaling the world's record in this respect, the 'plane shot into the air. After rising to a height of 40 feet and turning through an arc of about 45 degrees, Mr. Herring, who was acting as aviator, shut off the power, and the machine glided gracefully to the ground, after covering a distance of about 120 yards.

Mr. Herring said that he was more than pleased with the result, not having intended to go so far on his first trip. When he once got into the air, however, he found it so easy that he kept on going up.

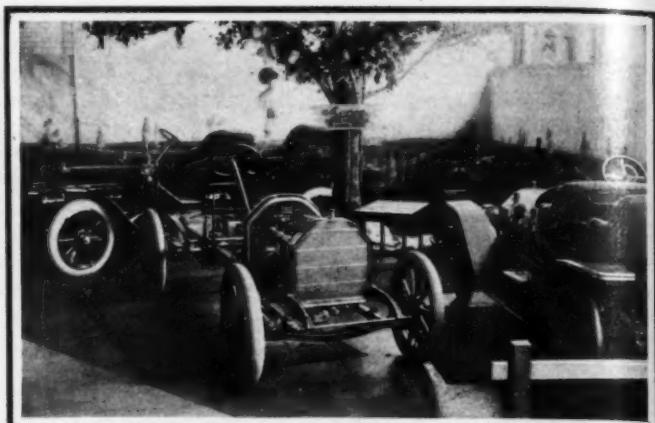


Stearns presenting details of the anchorage of the torsion tube to the cross member, presenting a large spherical bearing, universal action and the method of spanning the universal joint, which results in double bearings symmetrically disposed

The machine is a biplane, and is fitted with a Herring-Curtiss four-cylinder motor of 25 horsepower, with a four-bladed propeller on the rear end of the crankshaft. The automatic stability device consists of a number of small triangular surfaces like leg-o'-mutton sails, extending vertically from the upper plane. When the machine tips to either side these exert a righting effect. Each of them has a surface of about two square feet, and they are six in number, four being placed close together over the middle panel of the machine, and the other two about half way out to either end. The machine is mounted on three skids, one long one under the middle and two short spurs, one on each side.

Morse Car the Newcomer

The list of exhibitors promised two new cars, one of which was to be the Anderson, but through some inadvertence it failed to develop on time, and section No. 133 was pretty well filled up with Kline Kars instead. The Morse car, however, which is made by the Easton Machine Company, South Easton, Mass., was in place, and is attracting a wide amount of discriminating attention which cannot be explained away on the ground that the car is new. The photograph of this car, which will be found among the especially noted features of the show, presents a chassis in the foreground, which has all the earmarks of satisfying quality. A glance at the chassis will show an I-section front axle, which curves downwards sufficiently to afford clearance, but the shape is such that strains do not accumulate at points of divergence. The front of the radiator presents a graceful appearance, and cooling is due to the use of this radiator, which is the honeycomb type, and a centrifugal type of relatively great capacity, which is securely bolted into place, is driven by a safety dog, and has a packed gland. The motor is of the 4-cylinder, water-cooled type with valves in the head, individual cylinder castings, flanged and bolted to a crankcase, which is of cast aluminum with four integral arms, and the dust protecting flange system all arranged to support the motor between the side bars of the chassis frame. The oil sump in the bottom half of the crankcase is flanged thereto, and by unbolting this bottom half, it is possible to inspect and clean the oiling system, also to take up on bearings, and if the occasion requires, the pistons and connecting rods may be removed, repaired and replaced. The Stromberg carburetor is fastened to an intake manifold which is noted for its perfectly symmetrical T shape, and is so sized that popping in the carburetor and other troublesome performances are eliminated. Ignition involves the use of



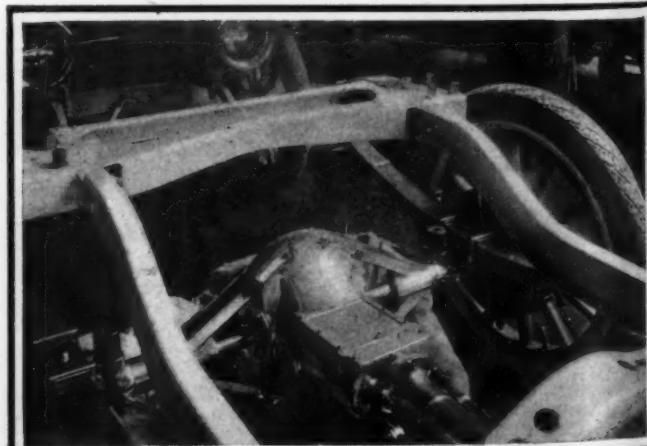
The Morse exhibit presenting a chassis in the foreground, flanked by a "gunboat" type of body to the right, and a conventional form of touring car in the background. The stand was well arranged to set forth the merits of the car

an Eisemann dual system, which, of course, includes a magneto and means whereby the ignition functions will be maintained, even though the magneto may become deranged.

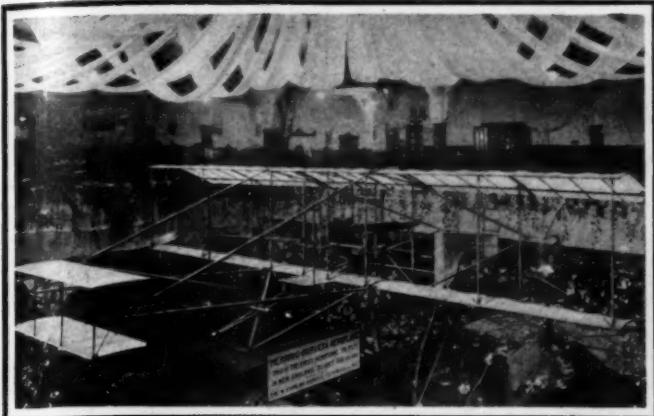
The crankshaft is of Krupp chrome nickel steel, forged under the hammer to give it its rough shape, and is then heat treated at the works of the Krupp Company at Essen, Germany, after which it is finished to exact size, which involves final grinding. The character of the material used in the crankshaft is reflected throughout the car. The clutch is of the multiple disc type, comprises 9 saw steel discs which are submerged in oil, and present 800 square inches of surface. A coil spring exerts the requisite pressure, and the foot pedal offers a lever advantage in the ratio of 6 to 1, so that disengagement is as easy as engagement is positive. A means for adjustment is provided, and a double universal joint counteracts torque inequalities, so that the clutch offers the advantage of utility and low maintenance.

The transmission is of the selective sliding gear type, with four speeds forward and one reverse. Three speeds ahead is on direct drive, through internal and external gear combinations, while the fourth speed is geared up so that on the fourth speed, the main shaft in transmission revolves faster than the crankshaft. Hess-Bright ball bearings are used throughout and all members including gears, pinions and shaft are made of heat-treated Krupp chrome nickel steel.

The steering gear is of the worm and sector type with a "Morse" cut. Every means is provided for adjustment, thrust ball bearings take the strains, and the housing is grease tight, with a means for feeding in grease as the occasion requires. The character of the workmanship throughout is consistent with the importance and nature of the service to be performed.

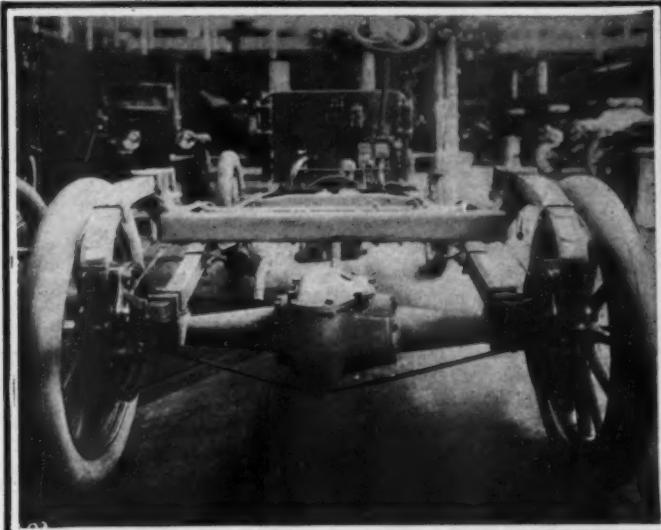


Rear view of the 15-30 Stearns, showing the kickup frame, substantial laterals at the rear, and a view of the live rear axle which permits the nesting of the differential gear, bevel drive, and transmission system within the branches of a special I-section axle



Herring-Burgess aeroplane, which was the first to fly in New England and is here presented as representing one of the fields of endeavor which was rendered possible by the perfection of the internal combustion type of motor for automobile work

The motor is rated at 24 horsepower, has a bore of $4\frac{1}{2}$ inches and a stroke of 5 inches. It is claimed that the power is actually realized at 800 revolutions per minute. The chassis frame is of the channel section, and in touring cars is 155 inches long. In the runabout type, however, it is reduced to 140 inches. The frame is so suspended with full elliptic rear springs, and half elliptic front springs, that it is 25 inches from the frame to the ground in front, and $2\frac{1}{2}$ inches between the same points at the rear. The wheels are 36 by $4\frac{1}{2}$ inches front and rear, with Goodrich tires on the touring car, and 36 by 4 inch all around, same make of tires, on the runabout. The live rear axle has a bevel reduction in the ratio of 14 to 47. The brakes are in 16 inch drums, with $2\frac{1}{4}$ inch shoe faces attached to the rear wheels, ex-



White car showing the live rear axle with its bell shaped housing, smooth exterior, and method of bracing, also a spring perch, double system of U bolts, three-quarter elliptic rear springs, and the method by which the springs are anchored to the chassis frame

cepting the emergency brake which has an 11 inch drum located on the differential shaft. There are many other excellent features to be noted on this car, but they come as details, which are only to be expected, in view of the description already rendered, and will best find a place when the car is being written up.

The Morse line includes the standard type of touring car, and equipment, at \$4,000, the runabout type at \$3,900, and the chassis with a priming coat at \$3,600, with options as to bodies.

RELATIONS OF PARTS MAKERS AND BUILDERS

By ALFRED REEVES, General Manager, Association of Licensed Automobile Manufacturers

THE already astonishing number of parts and accessory manufacturers who have been for some years co-operating in the production of motor cars is being added to at a remarkable rate. This is, of course, largely due to the reports that automobile builders cannot secure enough parts to make the output they have planned. Many old companies, notably those in the carriage trade, are making the change and becoming constituent elements of the dominating motor industry. It is obvious that the closer these newcomers stick to their line of experience, the better co-ordinate units they will become in the industry.

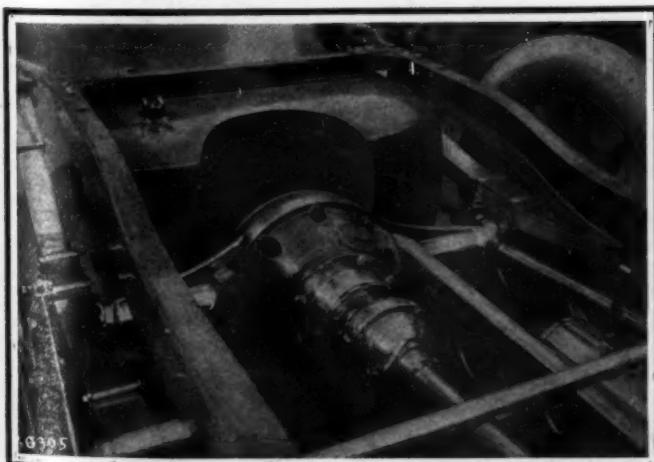
I want to emphasize the point that the accessory and parts makers should put quality before everything else. There is noth-

ing more important than quality, unless it be design. Poorly designed or made parts can have only the effect of discrediting their immediate producers, as well as the motor car makers who use them. The increasing importance of the interrelation between the parts makers and the car builders is a subject that can be profitably dwelt upon by anyone really interested in the industry. I have been gratified recently to note that parts makers are not only showing a tendency to stick to that line of manufacture in which they have had qualifying experience, but also instead of forcing production and taking orders beyond the point of possible delivery, disappointing everybody all along the line, are looking into credits and conditions carefully and acting conservatively generally; which action is viewed with marked approbation by automobile manufacturers. Nothing less than this is adequate in the proper and sound upbuilding of the industry, and, of course, the conservation for all time begins with the steps taken in the upbuilding.

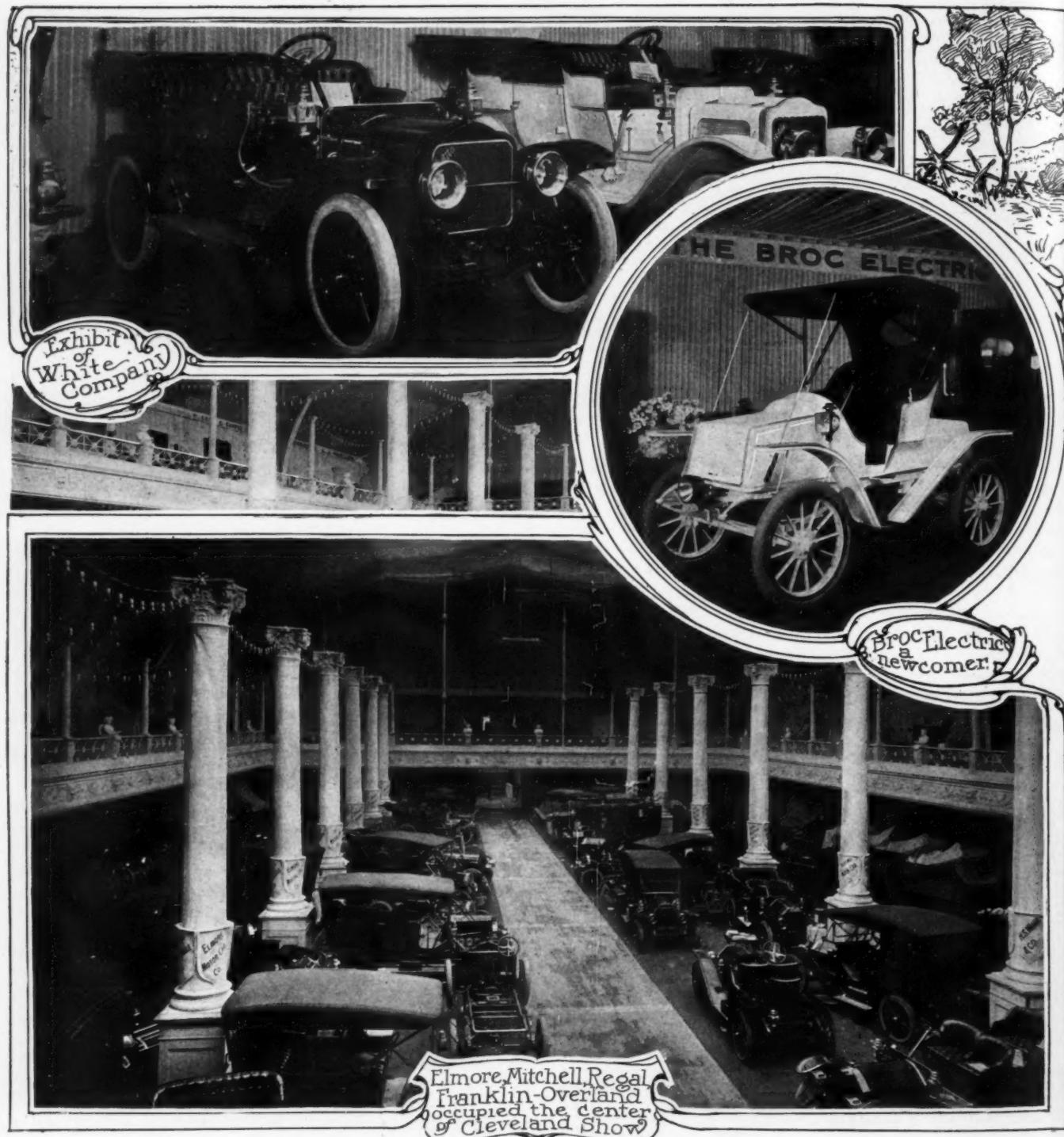
Competition in the parts business must more or less soon become normal with profits reduced accordingly, success thereafter keeping step with inherent manufacturing and selling ability.

The modern automobile represents one of the highest achievements of mechanical engineering. No other industry probably has contributed so much to the development and refinement of machine tools, new, quick and accurate manufacturing methods, and of materials possessing enormous strength and properties undreamed of heretofore. Each and every part has been the constant subject of long and accurate tests and study, to bring about simplicity, strength and lightness, through proper distribution of material, according to mechanical laws.

This refinement is always going on, and no detail, however trifling, is overlooked in this steady march toward perfection. This is an index of the real task before the accessory and parts manufacturer, as well as the car builder; and indicates clearly the field in which the manufacturers of merit will survive.



Also, depicting the live rear axle, universal joint, pressed steel radius member, kickup chassis frame, half elliptic springs, and a commodious gasoline tank which is cut away to afford space for the enlargement of the axle to play in



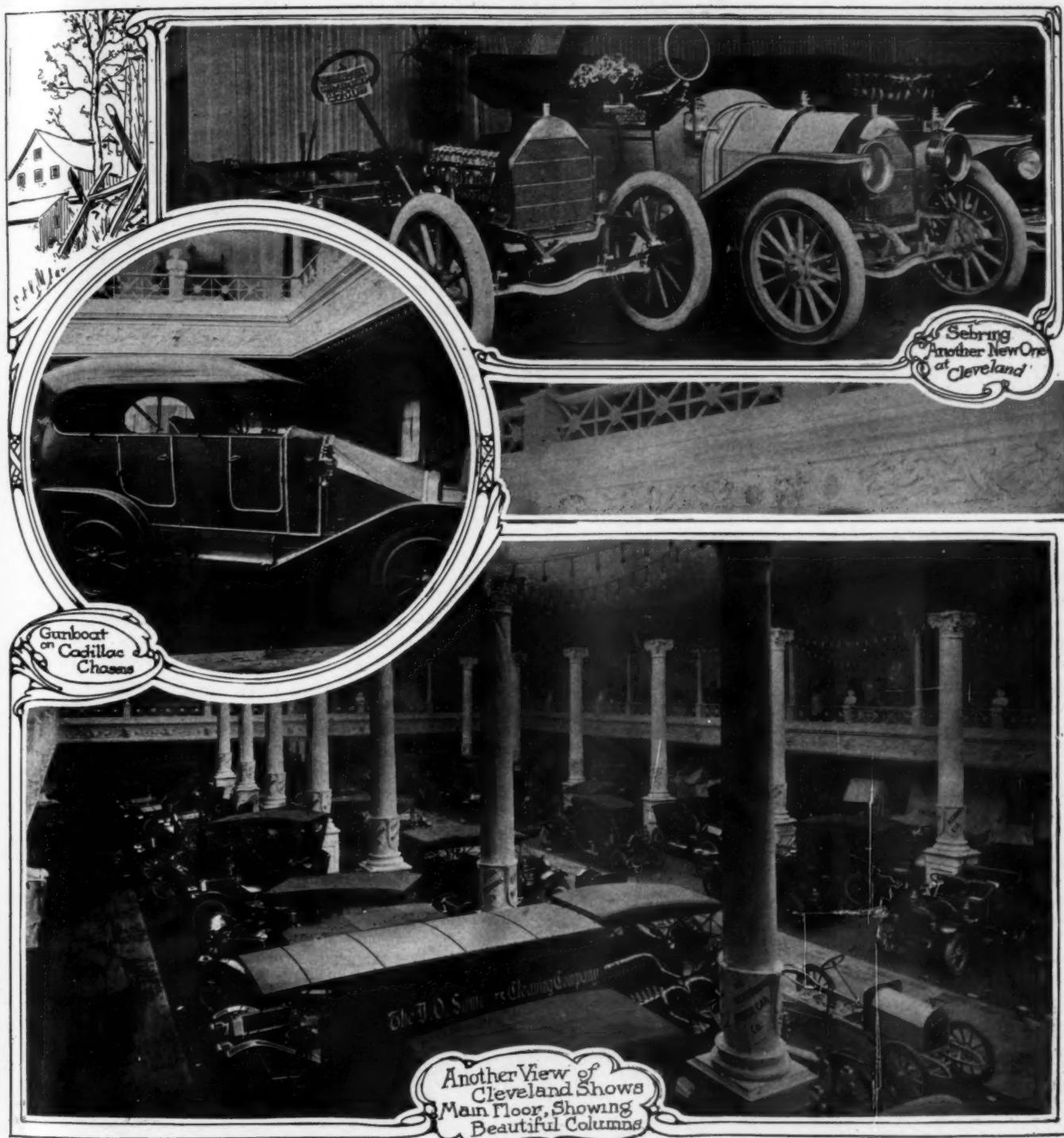
CLEVELAND, Mar. 7—The Cleveland Automobile Club's show, the second for the city, opened Saturday night, and is generally conceded to have surpassed anything previously held here. Forty dealers are exhibiting cars, the total of makes represented being about seventy, and of complete cars there are over 160. So great was the demand for space that some of the exhibitors of automobiles were forced into the balcony, which has never been necessary before. The unfortunates number six. They console themselves, however, by the crowds which still penetrate to their stands.

A large crowd was waiting to enter the show when Mayor Baehr touched the button which turned on the illumination Saturday evening, and by 9 o'clock the big hall was filled to overflowing. The neatness and simplicity of the decorations excel anything yet seen in Cleveland. They are principally in white. The ceilings are concealed by five thousand yards of duck, and the walls and staircases are draped with bunting.

The balcony railing has been transformed into a solid bulwark of plaster of paris, ornamented at regular intervals with massive shields bearing each a lion's head and an automobile. The "automobile girl," the emblem of the show, stands in the very center of the hall on a high pedestal, resplendent with electric lights. From one end of the armory to the other strings of electric lights connect rows of Corinthian columns, all brilliantly illuminated. Suspended from the roof beams overhead are three clusters of lights, representing automobile wheels.

A prize of \$100 has been offered for whoever recognizes the "Girl at the Wheel," after whom the central statue was modeled. The lady in question is said to be a prominent East End automobile enthusiast, and visits the show every evening, although not in the automobile costume in which she posed for the artist.

As in the earlier show, an extra aisle has been provided straight through the center of the hall. This arrangement has proved very useful in avoiding congestion, which otherwise

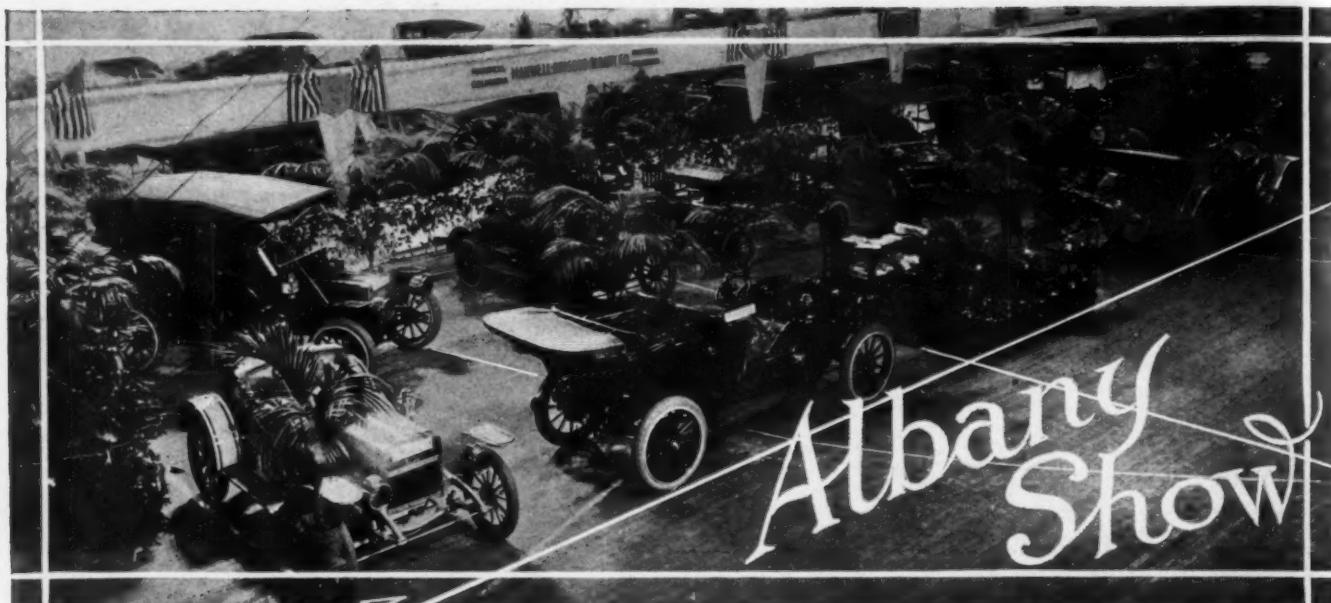


would be extreme. Through this extra aisle the visitors were enabled to view the cars more quickly and so give the balconies a larger share of their attention.

Four companies which exhibited their cars in the earlier show also have spaces in the present one. They are the F. B. Stearns Company, the Studebaker Automobile Company, the White Company and Applebaum Brothers, who show the Detroit electric. The White Company did not decide to come in until the middle of the week and so had difficulty in securing place. When George Collister, the manager of the show, found that it was impossible to accommodate it otherwise, he asked some of the large exhibitors to spare a part of their allotments. This the C. B. Shanks Company did, and as a result the White Company has room to show two cars. The complete list of car exhibitors follows:

The Rambler Automobile Company, Rambler; the Babcock Electric Garage and Sales Company, Babcock electric; the Weddell House Garage, Inter-State and Holsman; the Studebaker Auto-

bile Company, Studebaker; the Brandt Motor Car Company, Kissel-Kar; the Broc Carriage and Wagon Company, Broc electric; the Olds-Oakland Company, Oldsmobile and Oakland; the Maxwell-Briscoe Cleveland Company, Maxwell; the Charles B. Shanks Company, Chalmers and Hudson; the Cook Motor Sales Company, Premier and Reo; the Garford Motor Truck Company, Garford truck; the Sebring Motor Car Company, Sebring, O., Sebring; the Crest Motor Car Company, Paige-Detroit, Abbott-Detroit and Warren-Detroit; the Auto Shop Company, Thomas; the Western Reserve Motor Car Company, Pierce-Arrow, Apperson, Woods electric, Everitt and Hewitt truck; the Auto Sales Company, Velle and Hupmobile; the Euclid Auto Company, Firestone-Columbus, Columbus electric and Atlas; the Crawford Motor Company, Jackson, Fuller, Rider-Lewis and Stearns; the Buick Motor Company, Buick, Welch and Welch-Detroit; the Park Motor Car Company, Speedwell; H. S. White & Company, Pierce-Racine; the Overland Motor Car Company, Overland and Marion; the Regal Motor Sales Company, Regal; the Barger Automobile Company, Cadillac; Applebaum Brothers, Detroit electric; the White Company, White gasoline and steam; the H. H. Franklin Mfg. Company, Syracuse, N. Y., Franklin; the Mitchell Brothers Company, Ohio; the Elmore Motor Car Company, Elmore; J. H. Greenwald, Marmon and Moon; the Wentworth Motor Car Company, Mora; the V. R. Hall Auto Company, Cartercar and Plymouth truck; Lucas & Christenson, Mitchell; the Pullman Motor Car Company, Pullman; the Forest City Motor Car Company, Jewel; the Gabriel Carriage and Wagon Company, Gabriel, Krit and I. H. C.; Haynes Auto Agency, Haynes, and the Black Mfg. Company, Black-Crow.



The New York State Capital Made Its First Show as Impressive as Though It Were a Veteran at the Work

ALBANY, N. Y., Mar. 7.—To make the first show ever held of such magnificence and attractiveness as to preemptorially challenge all others to the right of occupying first place in prominence is a big contract for any aggregation of men but such contract has been more than filled by the Albany dealers association in conjunction with the officers and men of the Tenth Regiment National Guard of New York located in Albany.

Buffalo, Rochester, Binghamton and New York City all had shows far in advance of all previous ones. They were all good and fine to look upon. But not one of them except Madison Square Garden presented anything like the spectacle that did this first Albany show. Of course both Buffalo and Rochester were bigger local shows but what Albany lacks in number of exhibitors she makes up in unobstructed floor space and harmonious decorative features.

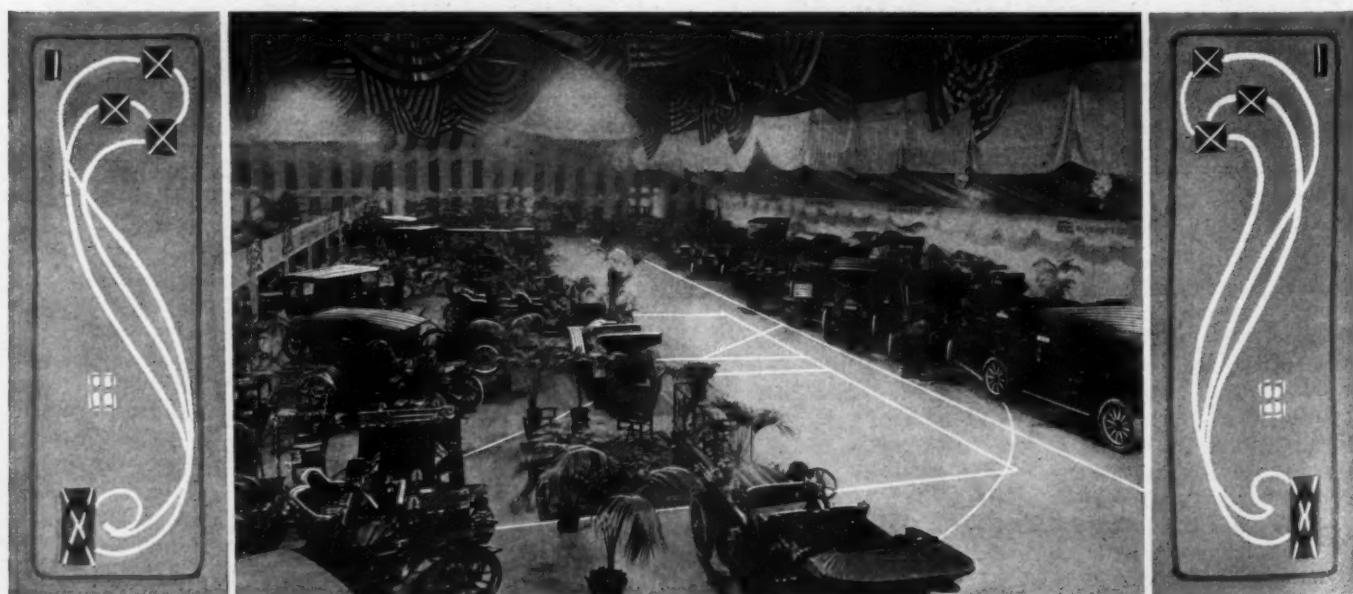
There are 35 exhibitors—all but six on the main floor. These 35 show 121 completed cars in addition to a long list of motors, chassis and accessories.

The armory in which the show is being held, lacks but a few feet of being as large in floor area as is Madison Square Garden, that is, the main floor. This being true some idea may

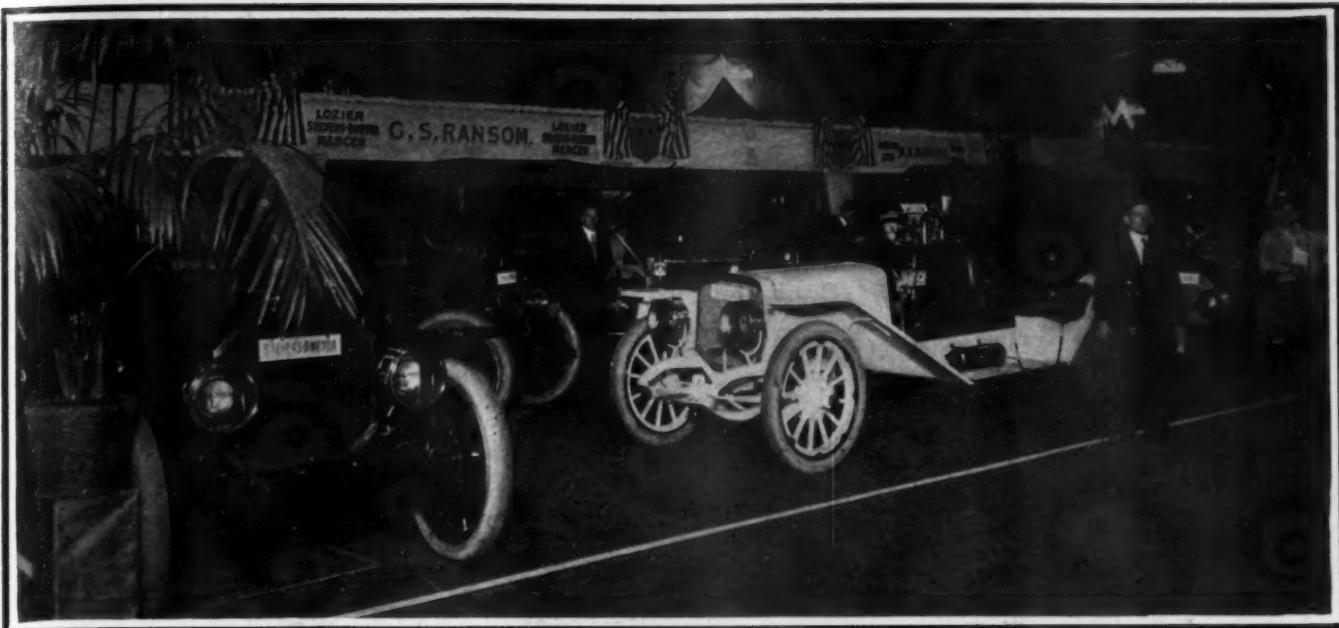
be gleaned of the splendid facilities for showing off all the cars. A vast crowd is almost lost among the exhibits.

The color scheme is as daring as it is beautiful. The dome and center ceiling is resplendent with national colors and flags. The side walls and balcony walls, to be found only at one end, are wrapped and artistically draped in a silken bunting of pale pink and white in wide strips. The idea of pink with the red of the national colors would seem to indicate a jarring effect but so skillfully has the work been done that this is far from true. Then, too, an abundance of stately palms and green ferns about the floors and suspended from the walls helps to harmonize the picture within itself. Suspended baskets of roses and other flowers illuminated by hidden electric lights added much to the general design. Down the center of the long drill hall is a partition or lattice work also wrapped and draped in white with big national shields separating the signs of the exhibitors. A profusion of palms and flowers furnishes the finishing touch.

The show is novel in several respects. The styles and designs of the cars are fine. They are more representative of the wide choice of the manufacturers than is usually to be found at a local show. Illustratively it should be noted that there are



Albany Tenth Regiment Armory Has Within a Few Feet of the Same Floor Area as Madison Square Garden



Comprehensive Exhibit of a Local Dealer, Including the Lozier, Stevens-Duryea and Mercer Cars

some seven or eight gunboat bodies, a lot of the ultra sporty runabouts, all in addition to a splendid showing of the standard designs. A glance at the list of exhibitors will also show that the very finest of American manufacture are to be seen here. Commercial wagons are also in evidence with five different makes shown on the floor.

Probably one of the most attractive exhibits is that of the Maxwell-Briscoe-Albany Company, showing seven Maxwells and two new Columbias. In addition to this line, which is the largest of any one make at the show, Manager Hadley has secured most of the Maxwell trophies and cups. These make a mighty showy case in the front of his space and are the center of considerable attraction.

Announcement was made at this booth that W. A. Hamilton, secretary-treasurer of the company, had recently been appointed manager of the Columbia department since it has been taken over by the United States Motor Company.

The Eureka Motor Car Company is newly organized by Charles A. Stiert and it is showing for the first time at any of the

local shows in the State, the new Cutting car. It seems to have made a very favorable impression judging from reports.

The Buick exhibit which is also large in numbers is showing the Welch line, seldom seen at local shows.

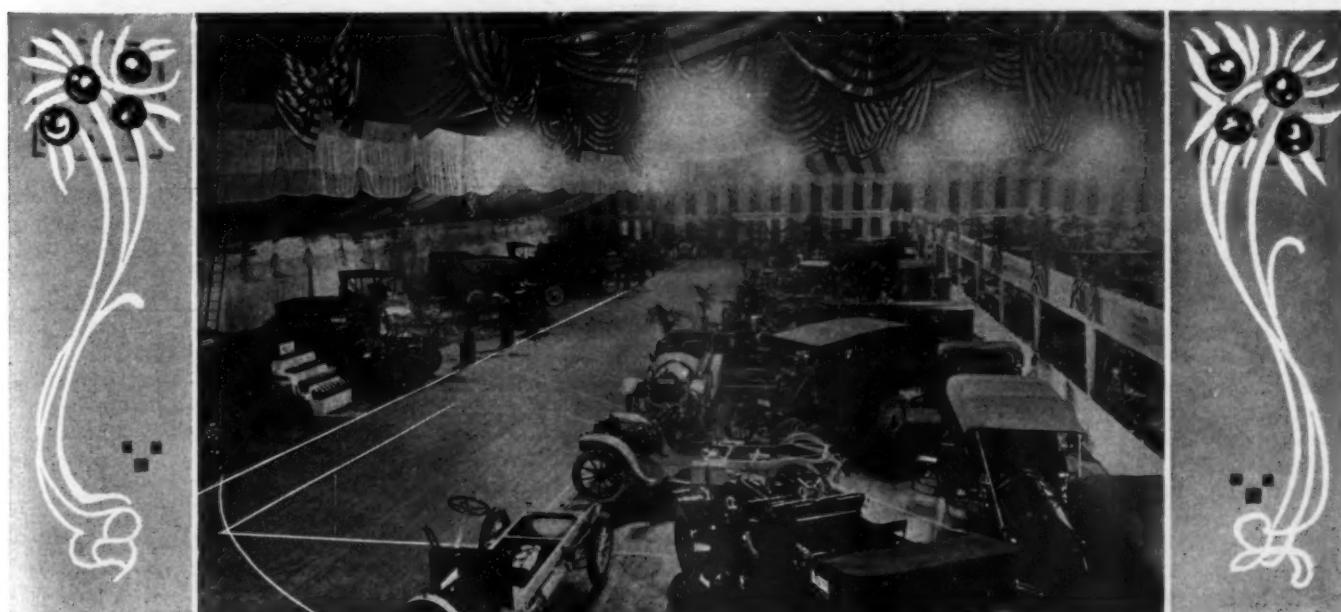
A. J. Gervais, one of the late exhibitors, is showing "Brighten Up," a new non-acid, non-grease metal polish manufactured by S. C. Clapper & Co., at Nassau, New York.

The Walker non-skidding chain is also a newcomer in the field of accessories. The chain is said to prevent side skidding as well as slipping and spinning. The skid links are fastened at intervals in the center of the tire to a ring of the same metal as the chain and on the face look like really effective non-skids.

The management of this show is also varying from custom in that there will be no double admission society night. Upon Thursday night, however, a military night is planned, at which the brigadier-general and his staff will appear as a body.

It was expected that the governor might appear for the opening night but he did not and is looked for later in the week.

(Continued on page 527)



Another General View, Showing the Spacious Main Floor and the Galleries for the Accessories

Parisian Fashions for Fair Autoists
By Mrs. A. Sherman Hitchcock

"Charlette Conday Bonnet"

Hood and Mackintosh

Mushroom Hat.

Hat and Loose Coat.

Turban of Feathers

AUTOMOBILE shows, which are held annually, arouse a wonderful amount of enthusiasm among the women motorists. They turn out in full force to view the new cars on exhibition, and their interest in motor matters is apparently as keen as that of their male escorts. In fact, the women who do not go to the show miss a good deal, and are counted out of the game by the women who do go. Many of the society leaders set the motor styles which the feminine portion of the world at large will follow, and many new motor fashions can be observed. Some of these motorists who have recently returned from abroad have brought back with them the very latest idea in motor garb from Paris, and their new coats, hats and veils bear the earmarks of the true Parisian.

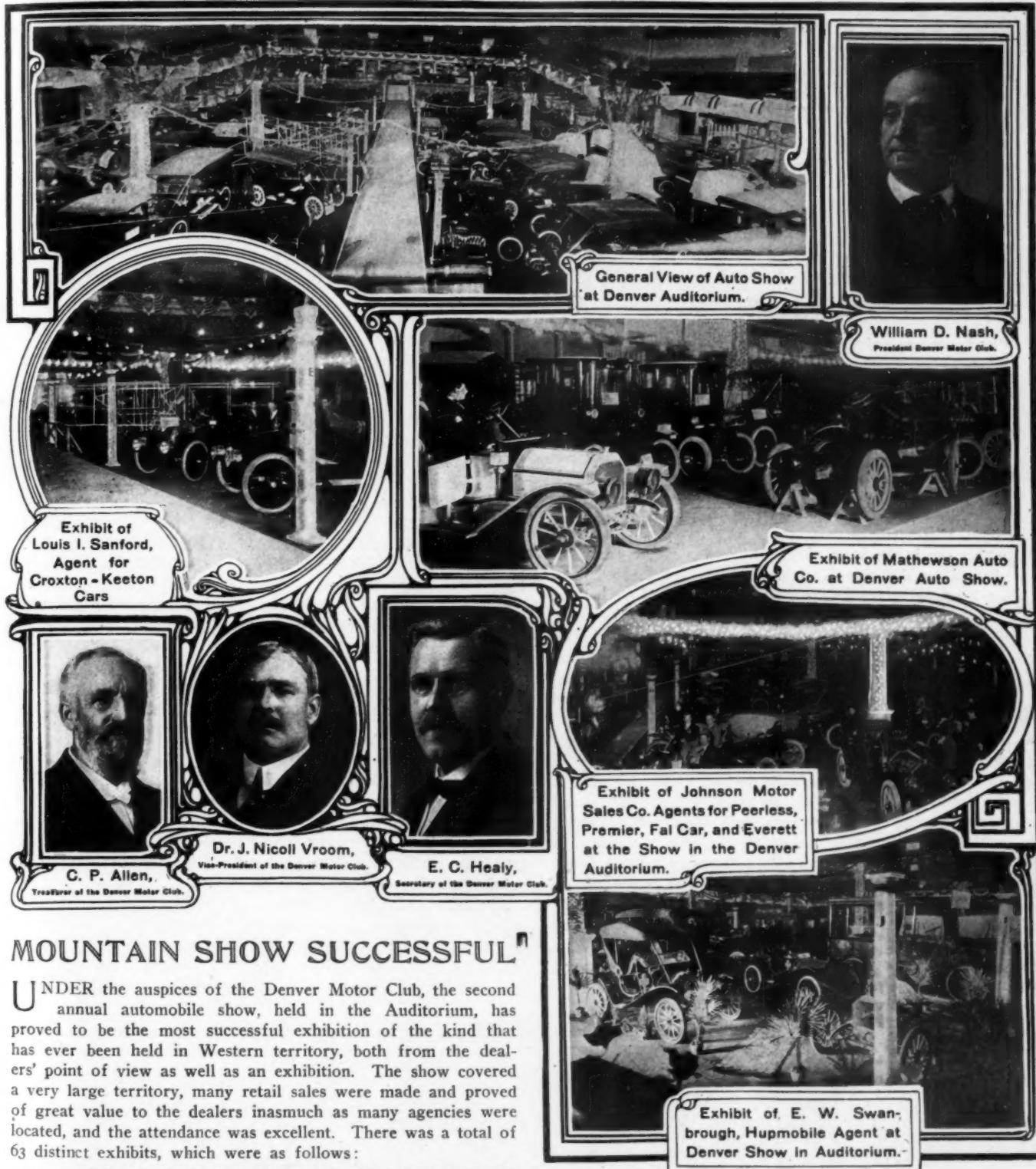
Whenever two or three, or even more, of the fair sex are gathered together the motor car and the dress appropriate to the motor car are the chief topics of conversation. Motoring is now the leading sport for the up-to-date woman, and appropriate garb must be provided. There is now to be seen an enticing array of luxurious coats, coquettish hoods, becoming hats and attractive scarfs and veils which are built exclusively for motoring, and the woman who cannot make herself both comfortable and attractive in her motor togs has really to blame herself.

The fashionable motor coat is long and loose, and comes almost, if not entirely, to the hem of the gown. The heavy fur coats do duty when upon the road and are indispensable for the coldest weather. The leather coats are also garments of utility, but the cloth coats are most conspicuous for present wear, as well as the plaids and checks in the English blanket cloths and Scotch tweeds. The homespuns and meltons prevail with the best dressed women. The long, loosely fitting coats of breitschwanz are seen to a great extent, and will continue to be worn until really warm weather is at hand. The coat should have deep, roomy pockets and sleeves that come well down over the hand,

and it should be cut in double-breasted fashion, with buttons all the way from the throat to the bottom of the skirt.

Fur-lined coats are usually made of broadcloth, melton or tweed, and have a big storm collar of a handsomer and more expensive pelt than is used for the lining. For driving or rainy days—and every true motor enthusiast defies the weather—there are long coats of gutta percha which have a high stand-up and turn-down collar and absolutely no opening. The coat stretches over the head and leaves one snug and dry, with absolute scorn for the falling rain. To accompany this coat is a very becoming little hood of waterproof silk, and with a rainproof chiffon veil the motor woman has no fear of the elements.

A very practical thing to be included in the motorist's wardrobe is the petticoat of thin kid. It is made of soft, pliable leather, and fits the figure closely. Capes of heavy Scotch goods are greatly in vogue. A popular conception is the long, circular cape, like the picturesque affairs worn by the Italian army officer, modified for feminine usage. Kid waistcoats are long, reaching as low as the knees; they are supplied with large collars and trimmed with buttons. Those of bright cherry red kid are very chic; others are dyed to match with the costume.



MOUNTAIN SHOW SUCCESSFUL

UNDER the auspices of the Denver Motor Club, the second annual automobile show, held in the Auditorium, has proved to be the most successful exhibition of the kind that has ever been held in Western territory, both from the dealers' point of view as well as an exhibition. The show covered a very large territory, many retail sales were made and proved of great value to the dealers inasmuch as many agencies were located, and the attendance was excellent. There was a total of 63 distinct exhibits, which were as follows:

E. R. Cumbex, Rambler and Mitchell; Overland Auto Company, Apperson, Overland, Baker Electrics, Marion "Flyer" and Win'on; Krebs Covington Auto Company, Haynes, Detroit Electrics, E-M-F and Flanders "20"; Johnston Motor Sales Co., Premier, Fal-Car, Peerless and Everett; Studebaker Colorado Vehicle Company, Studebaker gasoline and electric and electric trucks; the Sanford Motor Car Company, Croxton-Keeton cars; Mathewson-Marr Aeroplane Company, Mathewson-Marr aeroplanes; Mathewson Auto Company, Thomas "Flyer," Oldsmobile, Reo, Oakland, Columbus and Ohio Electrics, Randolph and Reliance trucks; E. W. Swanbrough, Hupmobile; the Commercial Motor Car Company, Buffalo cars and trucks; Ford Motor Company, Ford cars; Fritchle Auto & Battery Company, Fritchle Electrics; Welch Motor Car Company, Welch cars; A. T. Wilson, KisselKar, Black-Crow and Empire; the Havens Motor Car Company, Frayer-Miller trucks and Dorris cars; Colburn Auto Company, Renault and Colburn cars; Michaels & Middlekauff, Parry cars; F. A. Trinkle, Brush runabouts; John Deere Plow Company, Velle cars; Arapahoe Motor Company, Elmore.

The territory covered by these exhibitors is Colorado, Wyoming, New Mexico, Arizona, Utah, Idaho and Nebraska. There was a total of 53 agencies placed by the exhibitors while the

show was in progress. The exhibitors of automobiles secured good prospects for a total of 174 agents throughout the territory.

The Auditorium in which the show was held is the largest building in the West, but it was found necessary to place some of the smaller exhibits in the large corridors on account of lack of space on the main floor. The building was beautifully decorated, the general color scheme being worked out in white and green. While there were a great many cars in proportion to the amount of floor space available still the show did not present a crowded appearance; this was due to the care and judgment which the exhibitors exercised at the request of the club. The aeroplane exhibited by the Mathewson-Marr Aeroplane Company was quite a feature and attracted a large number of people.



French Show Still in the Air

PARIS, Feb. 23—After the bulk of the automobile manufacturers of France have broken away from the Automobile Club of France and joined hands with the aero constructors for the holding of a joint aero and auto show, the national club has voted a resolution in favor of its own automobile show, to be held in the Grand Palais as usual. Thus, if this decision is persisted in, there will be two shows in Paris this year, compared with none in the year 1909. The club's excuse for holding a show after the manufacturers have broken away is that last year it passed a resolution that a show should be held in 1910, and cannot now depart from it.

Although the manufacturers, grouped in the Syndicate of Constructors, are resolved that the show shall be entirely in their own hands, they do not appear to be thoroughly satisfied with the step they have taken in signing an agreement for a joint show with the aero men. This will certainly be better than no show at all, but it is quite possible that the club may give up the idea of holding an exhibition at which exhibitors will be scarce, and that the few manufacturers who still stick to the club may desert that body. This would give the Syndicate of Constructors an opportunity to hold their show without opposition, with the Automobile Club of France as a figurehead, if it so desired, provided, of course, that the aero manufacturers would release them from their contract. But it is not certain that the aero manufacturers will be desirous of dissolving partnership, for, not yet being a very important body, they have everything to gain by combining with a powerful group of automobile manufacturers. The latter are only certain of winning if the club shows fight, in which case they will hold their joint

show in the Grand Palais, while the club, having very few firms at the back of it, will either have to organize a tenth-rate exhibition or go out of business entirely.

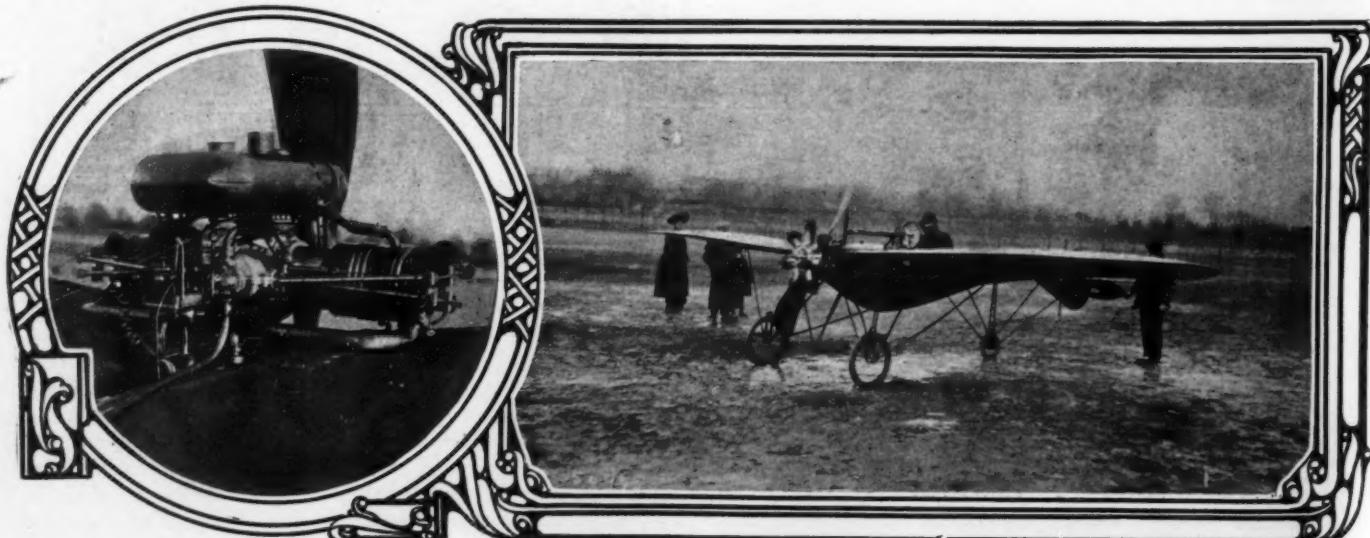
Through its manufacturers' section, the club has already put forth the conditions on which it will be willing to hold a show. Among the changes are uniform stands, with decorations, lighting and all fitting provided by the organizers; no reserved places for the oldest-established or most successful racing firms, and a sharing of the profits among the firms represented on the joint organizing committee. It is on these democratic lines that the manufacturers desire the show to be held, but when this programme was put forth by the manufacturers' section of the club, a contract had already been signed with the aero manufacturers. In addition, the manufacturers would like to see the club in a minority on the joint organizing committee, and the club still has the idea that it ought to occupy the premier position.

An endeavor is being made to arrive at a common understanding, but it is difficult to foresee the result, for, even if the club agrees to a new joint committee, on which the manufacturers will have a majority, it will be necessary to get the consent of the aeronautical manufacturers to a repeal of the present agreement for a combined show before a distinct automobile exhibition can be held. The Syndicate of Constructors, which signed the agreement with the Aero Association for a joint show, is composed of the following firms: Berliet, Léon Bollée, Bozier, Brasier, C. G. V., Chenard & Walcker, Clément-Bayard, Cohendet, Darracq, Delage, Delahaye, Delaunay-Belleville, Lorraine-Diétrich, Doriot-Flandrin-Parant, Grégoire, Harlé, Hotchkiss, Motobloc, Niclausse, Panhard-Levassor, les Fils de Peugeot Frères, Renault Frères, Rochet-Schneider, Rolland-Pilain, Sizaire & Naudin, Turcat-Méry, Vinot & Deguingand, Weyher & Richemond, and Zedel.

Clement Monoplanes Appear

PARIS, Feb. 23—Aeroplanes built in series, listed on the catalog and sold complete ready for the air, are now an item of at least one French firm of automobile manufacturers. The Clément-Bayard Company has long been interested in aeronautics, and has contributed towards the experimental construction of airships and aeroplanes, but it was not until the Santos-Dumont type was perfected by the young Brazilian that it decided to catalog a flying machine.

The first series left the works this week, having been constructed entirely in the automobile factory, with the exception of the wing frames. Nothing has been changed on the design, but there are considerable changes in the method of construction, the former bamboo frame having been abandoned in favor



Rear of New Clement-Bayard Motor

Jean Moisant, a Newcomer in Aviation, Uses a Gnome Motor on His Monoplane

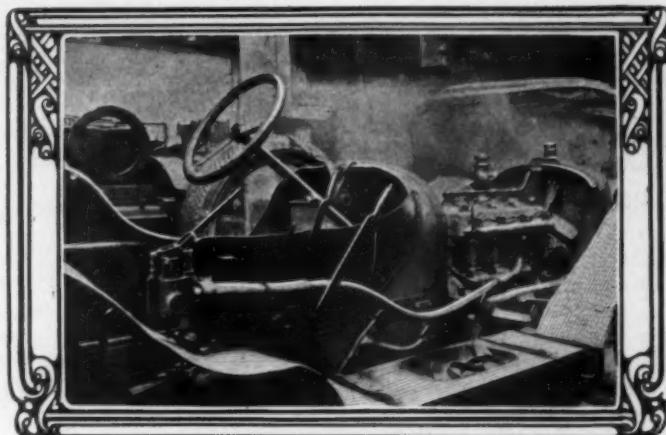
of a framework constructed entirely of light steel tubing. The only wood used in the aeroplane is found in the wings, which are made in three distinct sections, partly with a view to easy dismounting and storing, and also to allow replacements to be made at a decreased cost.

A special motor has been designed for this popular type of aeroplane. It is a two-cylinder double-opposed model, with steel cylinders of a bore of 5.1 inches, and a stroke of 4.7 inches. The water jacket is of copper, attached. The motor is mounted in the centre and at the forward edge of the wings, where it drives a two-bladed wooden propeller with a diameter of 78 inches. The only really distinguishing feature of the motor is the valve mechanism, inlet and exhaust being side by side in the head and worked off a single cam. Ignition is by high-tension magneto, with both water and oil circulation assured by pump. The radiator, consisting of a series of plain copper tubes, is mounted on the under surface of the wings.

Gasoline Gauge for Customs

PARIS, Feb. 23—A two-fold object has been attained in the new gasoline gauge produced by the French firm of Laforce: the instrument shows at all times the amount of fuel in the tank, and is also a register of every drop of gasoline passed through the filler. Its principle is simple, and it is none the less effective. In the centre of the tank is mounted a copper tube, with a diameter of about four inches and an internal spiral groove. A circular metal float is carried within the tube and is fitted with a couple of ears, so that both on rising and falling it must follow the spiral path of the groove. In addition, there are within the tube two metal rods passing through the float without being attached to it, united at their base by a transverse bar, and at the upper extremities by a circular plate. The float is free to slide up and down the two rods, but as it is secured within the spiral groove of the tube it must at the same time carry the two rods round with it in one direction for a rise and in the opposite direction for a fall of the fuel.

All that is necessary to transform this apparatus into an indicator is to affix a vertical stem on the centre of the upper plate and attach a needle to it, either directly or through gearing. With a gradual dial below, the amount of fuel will be accurately indicated. This is what has been done with the Laforce instrument, the needle being geared down, and the dial placed either horizontally, to lie on the top of the tank, or vertically by the use of bevel gearing. With a sufficient diameter of tube there is no danger of the float wedging in its groove, nor, with a proper construction, of friction between the float and the rods on which it ascends and descends. The fuel, being

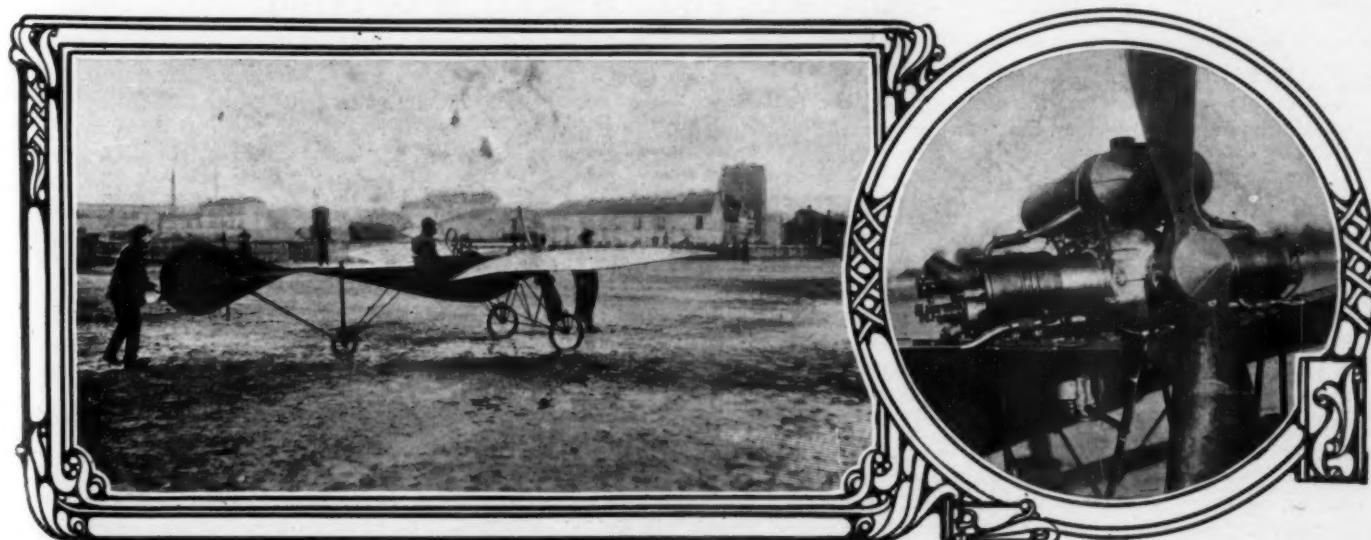


The Jaugey Carbureter Is Placed Alongside the Driver

contained within a tube, is not given to rolling, thus allowing the indicator hands to be very steady. It responds immediately to a sudden change of level, as is shown by filling up the tank as rapidly as possible.

By a very simple arrangement of gearing, it is possible to fit up a totalizing needle, only recording on the rise of the float. Thus, all gasoline poured in it is registered, but on the fall of the float the needle remains stationary, only to operate again when the float rises. With this and a distance recorder, it is possible to accurately gauge the mileage per gallon, as well as the total consumption for any given period.

The indicator has been designed to operate with equal accuracy for inclined or flat-bottomed tanks. For the former a false bottom is fitted, and the tube carried down to the lowest level of the tank, to which connection is made in a suitable manner. By this means the first pint of gasoline finds its way to the central tube, raises the float, and is indicated by the dial. Attention has been paid to this feature, with a view to having the instrument officially recognized by the Paris municipality. As all gasoline passing into the city of Paris must pay a duty of about two cents a pint, it is necessary that the amount on board the car should be accurately determined, and that, even when only a few pints are present in the bottom of a sloping tank, they should be registered. The indicator is now undergoing tests which, if satisfactory, will allow the instrument to be fitted to automobiles, sealed by the authorities, and its figures accepted by all the employees as the official amount of fuel in the tank. This will avoid the present inevitable disputes between drivers and officers, with the usual unsatisfactory indicators and the still more unsatisfactory measurements with a stick.



View from the Rear of Moisant Monoplane, Showing Rudder

Front View of Clement-Bayard Aviation Motor

EAST IS CLAMORING FOR THE GLIDDEN SUBSTITUTE

WITH the decision to plant the Glidden Tour in Southwestern soil, starting at Cincinnati and traversing a course through a half-dozen States, including Oklahoma, ending at Chicago, comes the conviction that the East will be bared of opportunity, and that the Glidden tryout will be a makers' institution, particularly the makers of relatively low-priced cars, most of whom have their plants in the West.

It has apparently been decided that the opening up of new territory will be for the good of the automobile, and that acquaintance with the roads as they are in the Southwest should be made. It is also likely that an effort such as this will, in some measure, tax the capabilities of the automobiles which will be entered. No matter what the advantages are, or who is so wise as to consider it desirable to abandon over 50 per cent. of the whole population of the United States, the fact remains that unless the wisdom thus displayed includes some sort of a run in that part of the United States which is inhabited before the end of the year the makers of the more pretentious types of automobiles will have no opportunity to display the qualities of their wares to their prospective customers, and will have to depend upon publicity reports as they will emanate from the "wisdom makers" who will accompany the Gliddenites on the Southwest venture.

The purchasing public is scarcely likely to be much interested in the character of newspaper reports which come under the conditions of a Glidden Tour in a remote section of the country, and it must be that the sole purpose of projecting a run of this character as to enable the makers of the cars which will be entered to obtain experience under conditions which will afford to them the advantage of comparison. Let it be taken for granted that the makers who will support the Glidden Tour this year will find it sufficiently edifying to satisfy their needs, but the fact remains that the East, or the centers of population in the Middle West, are left out in the cold, as the situation shows on the surface.

Last year the Munsey Run offered a slight opportunity to the Eastern patrons of the automobile industry, but it was not, according to some, an ambitious effort, and as for the remaining "pink tea" efforts, they do not count. The Munsey Run idea will scarcely suffice for the future, and the plant here is that there is apparently nothing scheduled for the coming season which is worthy of the high estate of the automobile, and the expectations of the Eastern makers and the citizens who support them.

If the wise ones have something up their "leg of mutton sleeves" which will satisfy the situation, the restiveness of the

many who fail to fully appreciate the provision made for them will be subdued. It does not look, however, as if they are to be favored by the intelligence which would sound as music to their ears, and they are strong in the fear that there will be no endurance contest worthy of the name, which will permit an Eastern maker to participate in, unless he ships his automobile by rail a distance of a thousand miles, and enters it in a run over roads which are not yet made, with bats for spectators for the most part.

If a run were to be inaugurated it might have for its itinerary any one of a dozen routes which would sum up to the total required distance and prove to be sufficiently strenuous to tax the capabilities of automobiles, prove the harmonious relations which are supposed to reside in them or develop the weak points. As an illustration of a run of this character the following might be considered:

Starting from New York, through New Jersey, Pennsylvania, Ohio, Indiana, Michigan, perhaps across lower Canada, New York State (via Niagara Falls), Massachusetts, and ending at Boston. This is a mere suggestion of a run which would be interesting to the participants, tax the qualities of the cars, and permit the greatest possible number of citizens to note the results. Publicity would be of a more substantial character and it would be maximum in scope, because the tour would pass the door of more newspapers in a single day than the Glidden Tour will cast a shadow upon from the time it leaves Cincinnati until it angles into Chicago.

Heretofore, and especially last year, the rules which governed the Glidden Tour were far from satisfactory to many of the contestants, and discredit was cast upon the situation as a result. If the public is to be interested in contesting machines, there must be no question as to the fairness of the rules, or the manner in which they are observed. If interest could be aroused and agitation should result in some effort to bring about an endurance contest for the East, this question of the rules would become a serious matter and should receive concurrent discussion. Unless the run can be brought about, however, the question of fair and comprehensive rules to govern the same should scarcely have to be wrestled with. There is no time like the present for the discussion of this matter, and the aim here is to bring the glaring deficiency to public notice with the expectation, perhaps, that others will participate and that something may come of it.

(Signed) R. G. KELSEY.

RECEPTION AT THE WHITE FACTORY

CLEVELAND, Feb. 28—A novel event in the annals of motor car manufacturing was the reception held last Saturday at the White Company's factory, St. Clair avenue and Seventy-ninth street.

Although the greater part of the factory was completed and occupied three years ago, it was only last August that the new six-story administration building was completed and the wholesale offices moved from their former location in a downtown office building. Last Saturday's event, therefore, took on the aspect of a house-warming of the visitors to make a thorough inspection of the factory.

The arrangements made for the reception were not unlike those usually made for a reception in a great private house. A canopy was stretched from the driveway to the entrance of the factory and there was a retinue of door tenders, ladies' maids, etc., to look after the comfort of the visitors. The leading caterer of the city was on hand with a half hundred of his assistants and all the florists in town were called upon to furnish the decorations. The hours announced for the reception were

from 1 to 5 o'clock, and during that period more than 1,500 of the socially elect of Cleveland attended.

The guests were received by the directors of the company and their wives, as follows: Mr. and Mrs. Thos. H. White, Mr. and Mrs. Windsor T. White, Mr. and Mrs. Rollin H. White, Walter C. White, Mr. and Mrs. Henry W. White, Mr. and Mrs. Ernest W. Hulet, Mr. and Mrs. M. B. Johnson, Mr. and Mrs. Frederic S. Porter and Mr. and Mrs. Albert R. Warner. Then the guests, in parties of a dozen or more, were conducted throughout the factory. After the guests had been conducted through the factory they were conducted to the "banquet hall," a large room which, in normal times, is used as a receiving room for raw material.

In connection with the reception, a little souvenir bulletin was distributed, giving some interesting statistics of the factory as follows: There are 1,500 employees and cars are now being built at the rate of 14 per day, or 84 per week. The weekly production is divided as follows: Forty steam cars, 40 gasoline cars and 4 trucks. Three months are required to build a White automobile.

MORE AND BETTER TRACK AND ROAD RACING RULES

RACING is apparently going to be more widely distributed and more generally interesting this year than ever, despite all predictions to the contrary. At least, that is what the committee in charge seems to think, and with that idea in view, the rules have been formulated so as to cover all possible cases. An additional list of rules is here presented, the first part having been given space in *THE AUTOMOBILE* for March 3.

Safeguarding Public and Contestants—A promoter must also furnish evidence satisfactory to the Contest Board that he has taken every possible precaution to safeguard the general public and the contestants, including the proper preparation of the roadway, and especially for the prevention of dust, the policing of the course, closing of highways and erecting fences where needed, and shall file with the Contest Board the original or a certified copy of any and all contracts and agreements made or entered into by him for the accomplishment of such safeguards.

Repairs and Adjustments—All mechanical repairs and adjustments must be made exclusively by the crew of a car.

Repair Pits and Attendants—There shall be located at the start and finish line one repair pit for each car started, not less than 15 feet long and 8 feet wide. Each contestant shall be entitled to have three attendants, two of whom shall be permitted to make replacement of gasoline, oil and water and replacement or replenishment of tires, or crank the motor, when a contestant's car is at a standstill at its pit, but said attendants shall in no case make any mechanical repairs or adjustments to the car or assist in any manner in such repairs and adjustments.

Spare parts, tools, etc., may be laid on the shelf or ledge in front of the pit, and pit attendants, while in the pit, but not otherwise, may hand same to the driver or mechanic.

A violation of this rule shall disqualify the car.

Fraud—Any attempt at fraud in the evasion of the definition of stock car and stock chassis and status of the car, on the part of an entrant, shall disqualify the car, the driver and the entrant.

In addition to the foregoing, there is provided a complete set of rules for the running of a road race, including weighing in and weighing out requirements; signal code for contestants; International road symbols for marking the course; road regulations; special duties of officials, etc.

SPECIAL RULES FOR TRACK RACES

Tracks are divided into three classes, viz.:

One-half mile, 1 mile, 2 miles or over, specially constructed speedways.

Tracks Must Be Licensed—Tracks will be inspected by a representative of the Contest Board and if arrangement of fences, buildings, ditches, provisions for laying the dust and other safeguards meet the requirements of the Contest Board, they will be licensed, such licenses expiring on December 31 of each year.

Licenses will not be issued to tracks which from the nature of their surfaces or turns, whether on account of dust, roughness, fencing or otherwise, may be considered dangerous.

Track Meeting Limited to Three Days—No sanction will be granted for a track contest of more than three days' duration.

One-Half Mile Track—No record will be allowed which is made on a track less than 1 mile in length.

Driving Reverse Way of Track—Any contestant who drives the reverse way of a track shall be immediately disqualified, suspended and reported to the Contest Board. The referee has no alternative in this regard.

LONG-DISTANCE RACE RULES

Change of Drivers—No driver shall be permitted to drive or have charge of a car for more than 3 consecutive hours. After the expiration of such 3-hour period he shall not be again permitted to drive until he has taken at least 1 hour's rest.

No 24-hour race shall be permitted on a $\frac{1}{4}$ -mile track.

Repairs and Replacements—Repairs and replacements are restricted to the part or parts actually damaged. No completely assembled unit, such as rear construction, transmission gear case, motor, clutch, etc., can be totally replaced unless damaged in all of its parts. When one or more parts of an assembled unit are damaged, such damaged parts only may be replaced.

Other rules added are:

Adequate code of signals to contestants.

Restriction of repairs and adjustments to a car on the track to those which can be made by the driver and mechanic and only such as will enable the car to run to the pit or paddock.

In case of total disability on the track, a car may be towed to the pit or paddock by a car approved by the referee.

Technical inspection during a race of any car which may be considered unsafe.

Stopping and restarting of race not to be announced in advance.

No work to be allowed on a car during any intermission.

SPECIAL RULES FOR HILL-CLIMBS

Provisions previously cited relative to permits to use the public roads and evidence of safeguarding public and contestants must be compiled with before sanction will be issued.

Length and Grade—The promoter must file with the Contest Board 10 days before the running of any hill climbing contest a surveyor's certificate of the length of the hill to be climbed and a profile showing the greatest percentage of grade at any point and the average grade for the total distance. These figures must also be stated in the entry blank.

Except for the above, with a few minor amendments, the hill-climb rules for 1909 are unchanged.

RELIABILITY CONTESTS AND TOURS

A summary of these rules for 1910 will be issued shortly.

The complete contest rules for 1910 are now being printed and will be issued as soon as completed.

MILESTONES FOR THE AUTOMOBILIST

Mar. 5-12.....Boston, Mechanics' Building, Eighth Annual Automobile Show, Boston Automobile Dealers' Association. Chester I. Campbell, General Manager, 5 Park Square.

Mar. 5-12.....Cleveland, Central Armory, Cleveland Automobile Club, Eighth Annual Show.

Mar. 5-12.....Des Moines, Ia., Coliseum, First Annual Automobile Show, Des Moines Automobile Dealers' Ass'n.

Mar. 7-12.....Albany, N. Y., Armory, Automobile Show.

Mar. 15-19.....Syracuse, N. Y., State Armory, Automobile Show, Syracuse Automobile Dealers' Association.

Mar. 15-19.....Bridgeport, Conn. Automobile and Aeronautic Show, Bridgeport Automobile Dealers' Assn.

Mar. 17-19.....Louisville, Ky., Automobile Show, Louisville Automobile Dealers' Association, in the Louisville Armory. Hubert Levy, Secretary.

Mar. 21-30.....Buffalo, N. Y., Convention Hall, Third Annual Power Boat and Sportsmen's Show, Buffalo, Launch Club. D. H. Lewis, Mgr., 760 Main St.

Mar. 21-28.....Denver, Col., Convention Hall, Denver Motor Club's Annual Automobile Show.

Mar. 26-Apr. 2...Pittsburg, Pa., Duquesne Garden, Fourth Annual Show, Automobile Dealers of Pittsburg. Frank D. Sauppe, Chairman.

Mar. 26-Apr. 2...Montreal Automobile and Motor Boat Show, Official Motor and Sportsmen's Show Committee of the Automobile and Aero Club of Canada, in the Coliseum. E. M. Wilcox, Manager, 123 Bay St., Toronto.

Apr. 23-29.....Bangor, Me., Auditorium, Second Annual Eastern Maine Automobile and Motor Show. J. Henry Graham, Manager, Old Orchard, Me.

Jan. 7-14, 1911...New York City, Madison Square Garden, Eleventh Annual Show, Pleasure Car Division, Association of Licensed Automobile Manufacturers.

Jan. 17-24, 1911...New York City, Madison Square Garden, Eleventh Annual Show, Commercial Division, A. L. A. M.

Feb. 18-25, 1911...Chicago, Coliseum, Tenth Annual National Automobile Show, N. A. A. M.

RACES, HILL-CLIMBS, ETC.

Mar. 19.....Altadena, Cal., Hill Climb, Licensed Motor Car Dealers' Association, Los Angeles, Cal.

Mar. 20.....Hill Climb, San Francisco Motor Club, San Francisco, Cal.

Mar. 28-29.....Savannah, Ga., Endurance Run to Jacksonville, Fla., Savannah Automobile Club.

Apr. 8-10 & 13-17...Los Angeles, Cal., Inaugural Meet, Motordrome.

Apr. 30-May 2...Philadelphia, Roadability Run to Atlantic City, Quaker City Motor Club.

May 2.....Flag to Flag Endurance Contest, Denver, Col., to City of Mexico.

June 11.....Wilkesbarre, Pa., Annual Hill Climb Up Giants' Despair, Wilkesbarre Automobile Club.

FOREIGN SHOWS AND RACES

Mar. 19-Apr. 3...Berlin Automobile Show.

Mar. 22.....Elegance Competition at Monte Carlo.

Mar. 27-Apr. 4...Prague, Austria-Hungary, Automobile Show.

Mar. 28.....Brooklands, England, Easter Meeting.

Mar. 31-Apr. 8...French Spring Wheel Competition.

Apr. 2-24.....Turin, Italy, Automobile Show.

Apr. 27-28.....Brooklands, England, Two-Day Meeting.

May 1-Oct. 1....Vienna, Austria-Hungary, Automobile and Aviation Exposition.

May 28-June 9...St. Petersburg, Russia, Automobile Exhibition.

June 2-8.....Prince Henry (German) Touring Competition.

INDEPENDENTS ORGANIZING FOR MUTUAL PROTECTION

TAKE IMPORTANT ACTION AS PREVIOUSLY ANNOUNCED IN "THE AUTOMOBILE"--NEW IDEA TO BE SUBSTANTIAL SUCCESSOR TO AMERICAN MOTOR CAR MANUFACTURERS' ASSOCIATION, BUT MORE AGGRESSIVE IN CHARACTER

CHICAGO, Mar. 7—As pointed out in *THE AUTOMOBILE* in the issue of February 24, various of the independent makers were seriously considering forming a new association for the protection and good of the makers who are not members of the A. L. A. M. At that time the under current of events was very carefully concealed, and *THE AUTOMOBILE* was not in a position to release details. History is being manufactured at a high rate of speed these days, and the public, especially the portion which takes an interest in affairs automobile, lives in anticipation of a campaign which will counteract the aggressive publicity of the A. L. A. M.

Some of the details of the proposed new organization are now to be had, although speculation must still occupy a niche in the proceeding. There was a meeting of mysterious interests which was held in Chicago last Sunday night with the idea of promoting an association which will be "an organization for mutual protection against the Association of Licensed Automobile Manufacturers." This association may not be built exactly according to the old A. M. C. M. A. lines, however, but it is said that a serious attempt is being made by unlicensed interests to bring together those manufacturers outside of the Selden bulwarks, and whose most powerful weapon will be a patent which is said to have to do with bevel gear drive as utilized by most makers.

It was not until Saturday morning that the secret leaked out. Then it was whispered around that there was to be a meeting held that day at the La Salle hotel, but no one seemed to know who was to be present or who had called it. A quiet investigation, however, developed that the movement was by no means a new one, it being stated by several, who evidently were on the inside to a certain extent, that during the last Chicago show they had been approached by one E. R. Russell, who claimed to be an engineer and who said he was interested in a tire and axle concern located at Connersville, Ind., and also in an electrical construction company in Cleveland. This Mr. Russell told several of the unlicensed makers that he and his associates had secured control of a valuable patent and that he hoped to bring about an organization of unlicensed makers which could use the patent which he controls as a weapon against the A. L. A. M. He told the makers at the show that he intended holding a meeting later on, at which his association would be formed.

This meeting was held Saturday at the La Salle hotel but as to its results no one outside of those in Mr. Russell's confidence

knows and Mr. Russell himself will not talk for publication, he having informed the newspaper men that it would be another week or ten days before he would be in a position to say anything. Despite Mr. Russell's secrecy, however, it has been learned that he has made some progress. All those whom he invited to attend Saturday did not go, although several representatives of unlicensed cars paid him a visit, more with the idea of learning of what he had to offer than to join, it is said.

One of those who paid a visit to Mr. Russell Saturday tells of star chamber proceedings. He found Mr. Russell and a Mr. Moore, a Chicago attorney, located in a suite of rooms on the eleventh floor of the La Salle hotel, and only one applicant was admitted at a time, coming in one door and exiting from another so that in this manner the proceedings were shrouded with great mystery. When the applicant reached Mr. Russell and his lawyer, he was told that the association already had been formed but that it was desirous to secure several more manufacturers before announcing the general plans of the association. Mr. Russell would not tell the applicants what concerns were affiliated with him nor would he go into details as to his patent holdings.

"You put in your application, pay us \$1,000, and we will consider you as a candidate," he is said to have told one of the manufacturers' representative who called upon him; "When you are admitted you will be told everything."

"But who will pass upon our application?" asked this manufacturers' representative?

"We have a committee composed of one representative from seven manufacturing concerns which pass upon applications," Mr. Russell is said to have replied, but he would not divulge the names of any of them nor could the prospective member gain any further information unless he would put up the \$1,000 asked.

From all it can be learned at the present time, the association is as yet in embryo. It is said that Indiana is the fountain-head of the affair and that several Hoosier manufacturers have been instrumental in starting Mr. Russell along these lines. As to the identity of the Indianian it is hard to conjecture, because most of the prominent Hoosier concerns already are members of the A. L. A. M. Also it is declared that neither Henry Ford nor Thomas B. Jeffrey are interested in the movement.

Following the meeting at the La Salle Saturday, Mr. Russell left Chicago yesterday morning, telling those interested, that he could be reached by mail at the Claypool hotel in Indianapolis.

LARGEST MERGERS MAY BE MERGED, IF THE STORY HOLDS

PERSISTENT rumors, supposedly having their origin in New York, have been floating about Detroit to the effect that an amalgamation is shortly to be effected between the General Motors Company and the recently organized United States Motor Company. It is an open secret that the advent of the United States Motor Company was not welcomed with any great outburst of joy by the combination in which W. C. Durant is the moving spirit. It is even recalled that in its earlier days General Motors made overtures looking toward taking over the Maxwell-Briscoe Company, strongest link in the new chain, although nothing came of the attempt. Since that time there have been various reports spread broadcast only to be denied in toto. The most recent gossip is to the effect that a giant merger is being discussed which would include a majority of the big factories throughout the country and make either one of the present cor-

porations appear insignificant by comparison. Color was lent this rumor by the presence here for several days of Benjamin Briscoe, prominent figure in the United States Company. However, Mr. Briscoe denies that his visit possessed any special significance.

"There is nothing to the story of an amalgamation so far as we are concerned," said he. "No overtures have been made, no negotiations undertaken, in fact, nothing of that nature has been done. The United States Motor Company is thriving, and there may be further developments in that direction in the near future. But the rumored amalgamation is without foundation so far as I know."

Nevertheless, the story declines to down, and the presence in New York this week of several local manufacturers give added weight to the belief that something is about to happen.

HENRY FORD COMMENTS ON THE SELDEN SITUATION

I HAVE noticed in the press throughout the country that the A. L. A. M. are to wage war against what they see fit to designate as "unrecognized" automobiles to educate the public against buying them, and the stockholders of unlicensed companies against making them. At least this is what they would like the public to believe is their true motive, and it would be a most philanthropic undertaking, the like of which is rarely seen in commercial life. But they do the public a gross injustice to assume that it is so unintelligent as not to be able to see through the scheme. It should be, and no doubt is, so evident to the public that the real motive of this war of the A. L. A. M. against "unrecognized" automobiles is a selfish one, and is neither to protect innocent investors from putting their money into new enterprises nor to protect buyers from buying cars for which they will not be able to secure parts, but is for the purpose of maintaining their present extravagant prices.

Of course, I can appreciate why President Clifton and his associates want to maintain the present high prices of their cars. If they can continue to reap large profits on their product, they will do so even though it means stifling competition.

That is the easiest way to maintain profit—much easier in fact, than devising ways and means of reducing the costs.

I do not understand all the motives of this Licensed Association in its campaign of educating the public to the point where it will recognize the advantages alleged by the association to accrue from purchasing its product, but it occurs to me that a much shorter way would be to go to the courts and have the unlicensed manufacturers enjoined from producing cars. That would beat trying to educate the public to refrain from buying these tabooed cars.

Mr. Clifton is entirely correct in saying that many promoters are pointing to the profits made by a few of the old time manufacturers, thereby encouraging the formation of new companies and inducing innocent people to place their money in these said new companies on the alluring representation of profits made by the old companies. He is equally correct when he says there are a lot of these companies doomed to failure, but there are,

too, a lot of the 72 varieties doomed to failure. In fact, in looking over the list of the 72 varieties, I think I can safely predict that there will be more failures among those makers during the next five years than there will be among the so-called unrecognized automobile manufacturers.

The Licensed Association does not grant to buyers of licensed cars any protection that is not granted to buyers of Ford cars. Time will prove whether or not the protection this association affords even nearly equals the protection a Ford buyer has. In spite of this intimidation campaign, no Ford buyer need fear an infringement suit. The Ford Motor Company will furnish a national surety bond indemnifying Ford buyers against suit. As the assets of the National Surety Company, of New York, combined with the assets of the Ford Motor Company, total approximately \$12,000,000, it is evident that Ford buyers and present owners have every assurance of ample protection.

It should be evident to the members of the A. L. A. M. that the automobile industry must take its course with other industries, must allow the weeding out of the unfit, and must permit of the continuance of the industry by those who are left with the "Survival of the Fittest." This is exactly as in all other lines of trade. If the manufacturers of these 72 varieties were willing to work along those lines, they would be spending their money, time and effort in educating the public, and they would be devising ways and means to be among the surviving. Instead they are trying to build up a monopoly by means of this so-called Selden patent, a monopoly which will eliminate their having to compete for a position.

I am going to continue our fight along the same honest lines as always, and to trust to our courts, in which I have the greatest confidence, to see that justice is done. Between courts it is not unusual to have a difference of opinion. The expectation of such a difference is evident in Judge Hough's opinion. He predicts that the matter will be taken to the court of appeals, to which court we will surely take it, and here is something more to consider. We expect, later, to tell the public something else of interest.

(Signed) HENRY FORD.

GLIDDEN WILL START FROM INDIANAPOLIS

At a meeting of the administrative officials of the A. A. A., which is now going on at Boston, it is understood that the question of the starting of the Glidden Tour and the laying out of the tentative route will be disposed of in favor of Indianapolis as the starting point. After the original announcement of the proposed route, which was to start at Cincinnati, the Mitchell Ranger was started out and was given official recognition by the press generally, and Chairman Butler of the A. A. A. Contest Board announced in THE AUTOMOBILE that the official pathfinder had not been selected up to that time, and that the selection was finally made in favor of a Chalmers car. It transpired simultaneously, that makers of automobiles in and around Indianapolis, petitioned the A. A. A., and offered as an argument for the starting of the tour from Indianapolis instead of Cincinnati, the well known fact that Indianapolis is an automobile center of substantially the first magnitude.

Until the administrators of the A. A. A. reached a final conclusion at the meeting which is now being held at Boston, it will not be possible to procure a confirmation of the change as here referred to, but a canvass of the situation, in so far as it is possible under the circumstances, rather goes to show that Indianapolis is likely to be honored. The change will be made on the ground that there are many automobile makers centered around Indianapolis and their wishes carry weight, whereas Cincinnati ranks relatively low as a manufacturing city with automobile making as a factor.

UNITED STATES MOTOR CO. COMPLETE

That the United States Motor Company, the recently organized \$16,000,000 corporation, which has so far absorbed the four plants of the Maxwell-Briscoe Motor Company, of Tarrytown, N. Y.; New Castle, Ind., and Auburn, R. I., and the mammoth plant of the Columbia Motor Car Company, of Hartford, Conn., is destined to stand in the front ranks of the industry is amply demonstrated by the personnel of officers elected recently at the first annual meeting of the corporation.

Mr. Briscoe, besides being at the helm of the Maxwell-Briscoe Motor Company, is interested in many concerns connected with the industry. Among the many positions which he holds is the presidency of the Manufacturers' Contest Association, having recently been elected for the second time, and is a director of the American Automobile Association, both positions being of a complimentary nature in honor of his high standing in the industry.

Associated with Mr. Briscoe in the new enterprise is J. D. Maxwell, first vice-president; H. W. Nuckles, vice-president; Carl Tucker, treasurer; J. W. Wellington, assistant treasurer; F. D. Dorman, secretary, and W. F. Crosby, assistant secretary.

Announcement was made last night at the Boston Show that Horace De Lisser, the well-known president and general manager of the Ajax-Grieb Rubber Company, has been elected to the vice-presidency with entire charge over the sales, of the new United States Motor Company, in which the Maxwell-Briscoe Motor Co. and the Columbia Motor Car Co. are already known as members.

LARGE CASH PRIZES AT LOS ANGELES MOTORDROME

AT the inaugural seven-day meet of the new Los Angeles motordrome, April 8-10 and 13-17, 37 events will take place. Races of all sorts will give every form of car, either specially built or stock, an opportunity to do its best without having to face odds of being outclassed. In addition to this it is said that the management will hold a twenty-four-hour race and the American Automobile Association has been asked to set aside April 30 and May 1 for this contest.

For the inaugural meet large cash prizes are offered for professional events and handsome trophies for amateur races, and the fields in each class are expected to be larger than usual. The handicapping will be in charge of A. L. McMurtry. The complete program for the ten days' sport follows:

Event 1—One-mile time trials, free for all. First prize, cup; second prize, cup.
 Event 2—Ten mile, stock chassis, 161 to 230 cubic inches. First prize, cup; second prize, cup.
 Event 3—Ten miles, stock chassis, 451 to 600 cubic inches. First prize, cup; second prize, cup.
 Event 4—Twenty miles, free-for-all handicap. First prize, \$100; second prize, \$50; third prize, \$25.
 Event 5—One hundred miles, stock chassis, 301 to 450 cubic inches. First prize, trophy and \$300 in gold; second prize, \$150 in gold; third prize, \$100 in gold.
 Event 6—Five miles, stock chassis, 231 to 300 cubic inches. First prize, \$50; second prize, \$25.
 Event 7—Five miles, free-for-all. First prize, \$100; second prize, \$50.
 Event 8—Twenty miles, stock chassis, free-for-all; open only to amateur drivers. First prize, trophy.
 Event 9—Ten-mile chassis, 231 to 300 cubic inches. First prize, cup; second prize, cup.
 Event 10—Fifteen-mile, free-for-all handicap. First prize, \$150; second prize, \$50.
 Event 11—Ten-mile, stock chassis, 451 to 600 cubic inches. First prize, \$75; second prize, \$25.
 Event 12—One hundred-mile, stock chassis, 161 to 230 inches. First prize, \$250 in gold; second prize, \$100 in gold; third prize, \$50 in gold.
 Event 13—Ten mile free for all. First prize, \$100; second prize, \$50.

Event 14—Twenty-five-mile, stock chassis, 301 to 450 cubic inches. First prize, \$100; second prize, \$50.
 Event 15—Ten mile, free-for-all handicap. First prize, \$100; second prize, \$50.
 Event 16—Ten-mile, stock chassis, 600 cubic inches or under. First prize, \$100; second prize, \$50.
 Event 17—Ten-mile, free-for-all, open to amateur drivers only. First prize, cup; second prize, cup.
 Event 18—Five miles, stock chassis, 161 to 230 cubic inches. First prize, cup; second prize, cup.
 Event 19—One hundred miles, stock chassis, 231 to 300 cubic inches. First prize, \$250 in gold; second prize, \$100 in gold; third prize, \$50 in gold.
 Event 20—Ten miles, handicap, open only to amateur drivers. First prize, cup; second prize, cup.
 Event 21—Twenty miles, stock chassis, 161 to 230 cubic inches. First prize, \$100; second prize, \$50.
 Event 22—Ten miles, stock chassis, 451 to 600 cubic inches. First prize, cup; second prize, cup.
 Event 23—Five miles, chassis, 231 to 300 cubic inches. First prize, \$100; second prize, \$50.
 Event 24—Twenty-five miles, stock chassis, 301 to 450 cubic inches. First prize, cup; second prize, cup.
 Event 25—Fifty miles, free-for-all. First prize, \$250; second prize, \$100; third prize, \$50.
 Event 26—Ten miles, stock chassis, 161 to 230 cubic inches. First prize, cup; second prize, cup.
 Event 27—Ten miles, stock chassis, free-for-all, open to amateur drivers only, for California championship. First prize, cup; second prize, cup.
 Event 28—Fifteen miles, stock chassis, 231 to 300 cubic inches. First prize, cup; second prize, cup.
 Event 29—Ten miles, stock chassis, 301 to 450 cubic inches. First prize, \$100; second prize, \$50.
 Event 30—Five miles, free-for-all handicap. First prize, \$100; second prize, \$50.
 Event 31—One hundred miles, stock chassis, 451 to 600 cubic inches. First prize, trophy and \$1,000 in gold; second prize, \$500 in gold; third prize, \$300 in gold; fourth prize, \$200 in gold.
 Event 32—Ten miles, free-for-all, best two out of three heats. First prize, \$200; second prize, \$100.
 Event 33—Two-hour race for stock chassis over 600 cubic inches. First prize, \$250; second prize, \$100; third prize, \$50; fourth prize, \$25.
 Event 34—Five miles, stock chassis, 301 to 450 cubic inches. First prize, \$75; second prize, \$25.
 Event 35—Ten miles, free for all. First prize, \$100; second prize, \$50.
 Event 36—Twenty-five miles, free-for-all, open only to amateur drivers. First prize, cup; second prize, cup.
 Event 37—Ten-mile handicap for cars under 450 cubic inches. First prize, cup; second prize, cup.

TROPHY FOR FREE-FOR-ALL

The Speed Carnival of the Florida East Coast Automobile Association, which will be held March 22 to 25 on the famous Daytona Beach, will introduce the initial race for an entirely new prize, which is known as the W. B. Five Thousand Dollar Trophy, and which must be won twice in succession before becoming the property of the winner. This trophy is offered for the 300-mile free-for-all race, as this contest offers the widest field of entries and the most sportsmanlike competition. This splendid product of the jewelers' art is made of solid silver and stands nearly 5 feet in height and in form is a pure Greek urn surmounted by the figure of Victory holding a laurel wreath. The base is ornamented with winged wheels and bears in relief a racing car at full speed. This beautiful and valuable prize is presented by the W. B. Corset Company, of New York.

ANOTHER TRACK IN SIGHT

Negotiations are being made by a company of New York capitalists for the purchase of the northern end of Monmouth Park, near Eatontown, known as the new part. This section contains 390 acres and has a splendid mile and three-quarter track. If the deal goes through many thousands of dollars will be spent by the capitalists to make this the finest automobile race track in the country.

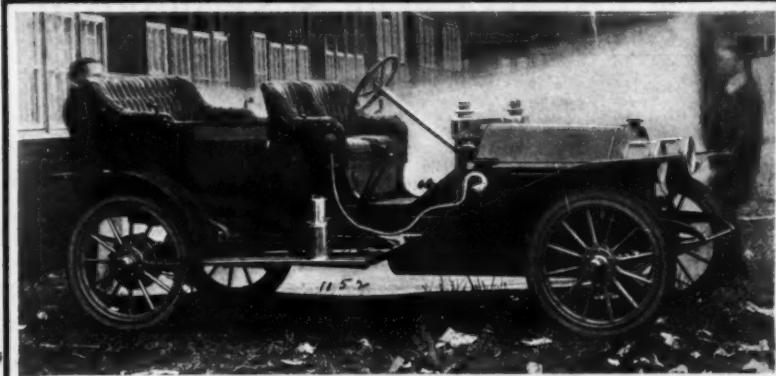


Trophy for Florida Speed Carnival

FRISCO CLIMB SUCCESSFUL

SAN FRANCISCO, Mar. 7.—In the first hill climb of the season held here recently, by the Automobile Trades Association, of Alameda County, a wet track prevented fast time, but otherwise, the event was a great success. The contest was held on the Oakland avenue grade in Oakland, across the bay, the length of the grade being 6/10 of a mile. The greatest honors went to the Buick and Corbin cars. Frank Murray, driving a Buick, took three first places, and in the 40 roadster made the fastest time. The Corbin took its class event and in the free-for-all equaled the best time of the day as made by a Buick. The summaries:

RUNABOUTS, \$1,000 AND UNDER		
Car	Driver	Time
Hudson		
	C. Allen	1:06
RUNABOUTS, \$1,501-\$2,000		
Buick 40	F. Murray	:52 $\frac{1}{2}$
Auburn	F. Hurst	1:18 $\frac{1}{2}$
RUNABOUTS, \$2,001-\$3,000		
Chalmers 40	J. Bemb	:58 $\frac{1}{2}$
TOURING CARS, \$1,500 AND UNDER		
Buick 30	F. Murray	1:00
Paterson 30	L. L. Gummow	1:15
TOURING CARS, \$1,501-\$2,000		
Buick 40	F. Murray	1:04
Elmore	P. F. Gillette	1:37
TOURING CARS, \$2,001-\$3,000		
Corbin	A. Loughead	1:06 $\frac{1}{2}$
FREE-FOR-ALL		
Corbin	A. Loughead	:52 $\frac{1}{2}$
Buick 40	F. Murray	:56
Maxwell	C. King	:57 $\frac{1}{2}$
Chalmers 40	J. Bemb	1:03
Gillette Pup	P. F. Gillette	1:06



One of the new Parry cars, standing in front of the immense factory at Indianapolis, Ind. This is the car which exemplifies the "Parry Idea."

Wilkesbarre, Pa., automobilists have received the announcement of the opening of Lee's garage, at 182 North Pennsylvania avenue. The garage covers four city lots, with a depth of 112 feet. It sets back 40 feet from the sidewalk, leaving a large yard paved with cement. The building has at present a storage capacity of 35 cars, and is so planned that the second story, when added, will accommodate 90. Arrangements have been made so that this enlargement can be made during the present season without vacating the building.

Commodore C. Stanley Grove has purchased the States garage, Atlantic City, N. J., on Atlantic avenue between States and Delaware avenues. This is the newest and handsomest in the city, having been opened only last July. During that time its builder, G. T. Lippincott, made it also one of the most popular. It is a two-story fire-proof building on the Roebling system, 72 feet front and 100 feet deep. The new owner will continue the same liberal policy.

The new plant of the Regal Motor Company, near Walkerville, Mich., is rapidly nearing completion, and will be finished within two weeks. An order for mechanical equipment has already been placed.

The new plant of the Fiat Automobile Company in Poughkeepsie, N. Y., is practically completed, and the machinery is now being installed.

Brief Personal Mention

C. J. Holdrege, formerly sales manager of the Stromberg Motor Devices Company, of Chicago, has transferred his flag to the Ideal Electric Company, of Chicago, with which concern he will occupy the same position. The Ideal Electric Company is making rapid advances in the electric vehicle field, and the new sales manager is busy making suitable arrangements to dispose of a large and important product.

J. B. Sperry, until recently connected with the Motor Car Company of Washington, D. C., has joined the selling force of the E. R. Thomas Motor Branch Company in Boston. Mr. Sperry has had several years' experience in the automobile business, the greater part of which was handling Thomas cars in western territory.

C. S. Henshaw, manager of the E. R. Thomas Motor Branch Company, of Boston, Mass., has secured the services of A. D. Frost as assistant manager. Mr. Frost was formerly connected with the Thomas Flyer agency in New York, and later was sales manager for the Herreshoff Motor Company, of Detroit.

R. T. Mitchell, well known to the Cleveland automobile trade, has joined the sales force of the Babcock Electric Garage & Sales Company, of Cleveland, and in the future will have charge of the sales of the Babcock for the State of Ohio.

AMONG THE GARAGES

C. R. Mertens, who severed his connection with the Columbia Motor Car Company some time ago to enter the service of the Whitlock Coil Pipe Company, has again returned to the Columbia factory in the capacity of assistant superintendent. He will have charge of the test department and also several others.

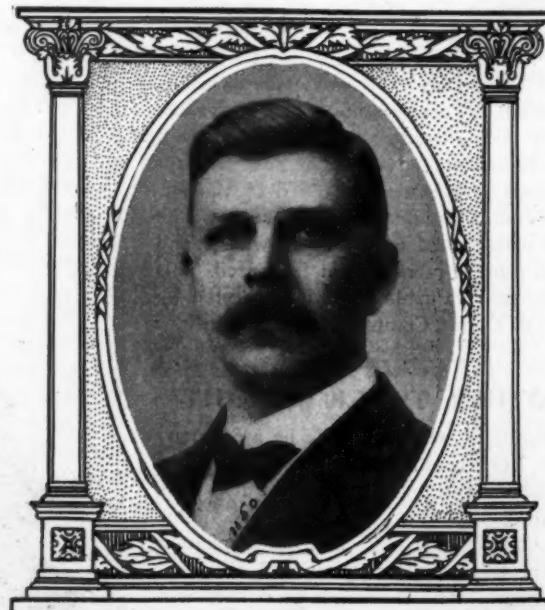
M. F. Todd, formerly connected with the sales department of the Regal Motor Sales Company, Detroit, has been transferred to the Cleveland branch and will have charge of the sales of the Regal car in the State of Ohio.

C. M. Halstead, formerly connected with a wire concern at Beaver Falls, Pa., has taken the management of the Auto Company garage at Akron, succeeding Andy Auble and Fred Woods, who acquired a garage in Cleveland.

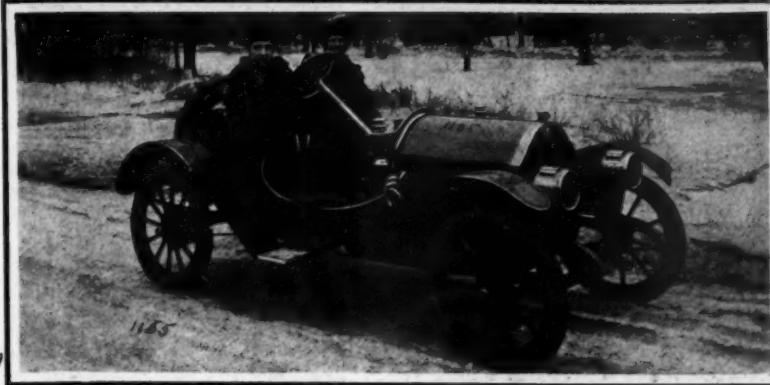
Starr Burdick, for several years factory and sales manager of the Spicer Manufacturing Company, of Plainfield, N. J., has resigned his position and is about to embark in a new enterprise.

Lee E. Horton, formerly Cleveland Morgan & Wright manager, has accepted a position with the Fisk Rubber Company, and will have charge of the Cleveland sales for that company.

Charles L. F. Wieber, who two years ago became a member of the Rauch & Lang Company, of Cleveland, has been chosen manager of the factory and financial head of the company.



R. E. Olds, president of the Reo Motor Car Company, Lansing, Mich.



Even actors and actresses are getting the motoring fever. The picture shows Harry Lauder, the famous Scotch comedian, with his wife in their Hudson

Under the name of the United Auto Supply Stores Company, a new automobile supply house has been opened at 1693 Broadway. This branch is in charge of John Wooster, who bears the title of New York manager. From Mr. Wooster it was learned that this company has been recently incorporated to open up general supply and tire stores in the leading cities throughout the country.

The Firestone Tire & Rubber Company announces the establishment of the following new distributing agencies for Firestone tires and demountable rims: Central City Rubber Company, 129 E. Water St., Syracuse, N. Y.; Shuler Rubber & Supply Company, 345 Baronne St., New Orleans, La.; Chesapeake Tire & Rubber Company, 202 St. Paul St., Baltimore.

A movement is on foot by local interests to bring to Hartford, Conn., a British concern engaged in the manufacture of automobile parts. There are many available sites, and it is hoped that the prospective producers will locate here. The local board of trade offers every encouragement to automobile industries.

The Regal has been placed for Wisconsin with the Franklin Automobile & Supply Company, of Milwaukee. It was formerly distributed by the Grove Automobile Company, agents for the Jackson and Fuller.

It is said that at the conference of the distributing agents of the De Tamble line held in Chicago on February 11, through concessions made by the agents and the factory, it would be possible to reduce the price of the De Tamble 34-horsepower car from \$1400 to \$1250.

The Great Western Automobile Company has closed contracts for the sale of Great Western "30" cars with the E. W. Clark Motor Company, Fond du Lac, Wisconsin; W. F. Huebner, Arrowsmith, Ill., and the Glide Automobile Company of Indianapolis, Ind.

The Columbus Buggy Company, of Columbus, Ohio, recently shipped its first carload of 1910 gasoline cars to the California Auto Company, of Los Angeles, the distributing agency for Southern California.

C. M. Logan, formerly with the Cleveland branch of the Olds Motor Works, has secured the agency for Pope-Hartford cars. Mr. Logan's territory includes all of Ohio except Cincinnati.

It is said that the British firm of Napier Motors will establish United States agencies with those who can add the British-built six-cylinder Napier to their present business.

The Eclipse Motor Car Company, of Columbus, O., has taken the Central Ohio agency for the Krit, manufactured in Detroit. The demonstrator is expected soon.

The Ohio Automobile Company, Dayton, O., has been appointed State distributor for the Springfield Car, made by the Springfield Motor Car Company, Springfield, Ill.

At Youngstown, O., Smith, Morgan & Company have taken possession of their new salesroom on East Boardman street. The Buick line will be handled.

The Ross Motor Company, of Superior, Wis., has secured the local agency for Overland automobiles, in addition to a number of other lines already handled.

The Krouse Motor Car Company, 317-321 North Broad street, has acquired the Philadelphia sales rights for the Halladay car.

W. W. Lester has taken the Hartford agency for the Brush runabout. This is the first appearance of that car in this city.

The Grout Automobile Company, of Orange, Mass., has opened a Boston branch in the Motor Mart. E. P. Forbes is in charge.

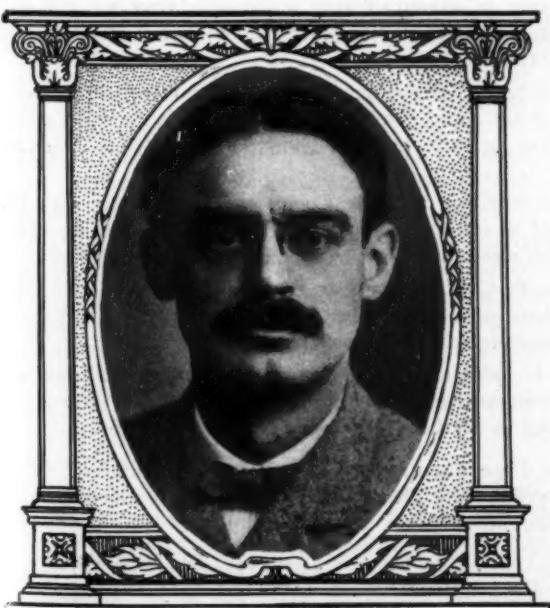
Harry S. Moore, Cleveland agent for the Stoddard-Dayton and National, has taken the agency for the Courier.

The R. A. C. is an addition to the line carried by the Hickman-Lauson Diener Company, of Milwaukee, Wis.

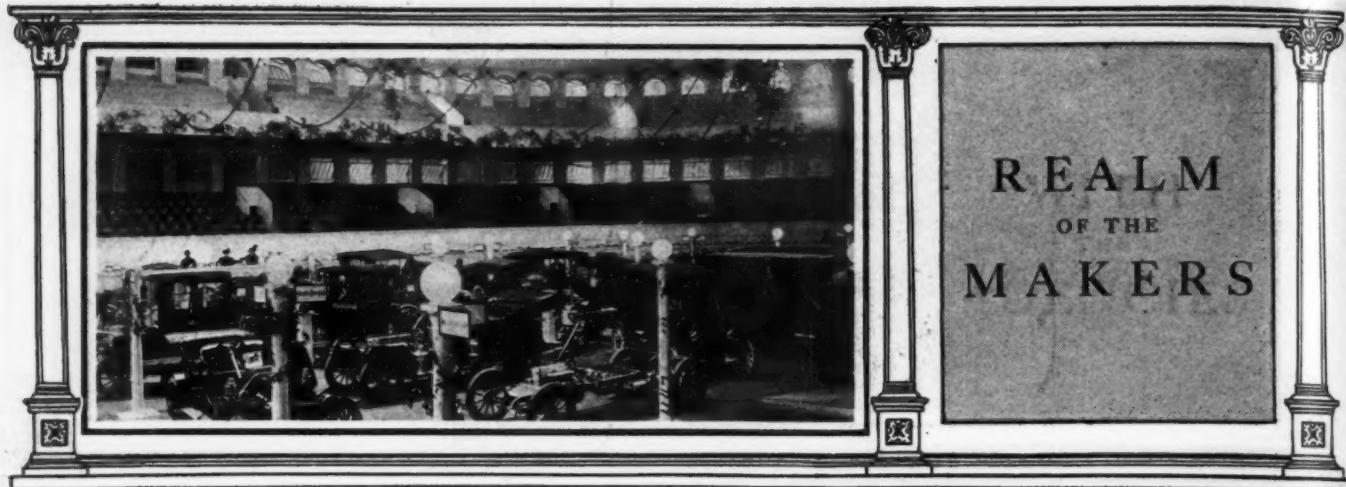
The Overland district agency for Rice Lake, Wis., has been placed with T. H. Field, of that city.

E. H. Peshak, of Beaver Dam, Wis., has obtained the district agency for the Oakland.

WITH THE AGENCIES



Frank Briscoe, president of Briscoe Mfg. Company, and Brush Runabout Company



View of one corner of the Milwaukee Show, showing the decorations, seats in the gallery, and in the foreground the Locomobile and Haynes exhibits

The Central City Rubber Company, 131 East Water street, Hanover Square, Syracuse, N. Y., is having extensive improvements made to its store, which when completed will give the firm one of the finest retail salesrooms for the handling of everything for the autoist but the automobile that there is in all central New York. These improvements include a new all-glass store front, modernized salesrooms on the main floor and in the basement, besides new concrete sidewalks of modern construction with sidewalk elevator.

Although it is about six weeks since one of the large factory buildings of the Racine Manufacturing Co. was destroyed by fire, it remains that they have resumed operations in practically the same proportions as before, delivering finished products to their patrons as usual. This concern has equipped a new factory building which was completed just prior to the fire.

At the recent automobile show in Portland, Ore., a Franklin, the only air-cooled automobile exhibited, was given an extreme test in a 72-hour non-stop run. This ended without a sign of overheating, nor was any replacement of parts necessary during the three days of continuous work.

The Winton Motor Carriage Company has purchased 89 feet on the east side of Woodward avenue, near Warren, in Detroit, and is planning to erect a modern showroom on the site.

The Mitchell-Lewis Motor Company, of Racine, Wis., is making every provision for the comfort and convenience of its thousands of employees. The latest innovation is a hospital corps. A Mitchell is stationed at the plant at all times day and night ready to transport an injured man to a physician's office or hospital, as occasion requires.

The Goshen Buggy Top Company, of South Bend, Ind., has decided to equip its factory for the manufacture of automobile tops. The necessary machinery has been ordered, and when installed an additional force of men will be put to work.

The Sebring Motor Car Company, of Sebring, O., has completed its first car and will exhibit it at the annual show to be held in Cleveland, February 19-26. The Sebring is of the six-cylinder type and has a horsepower rating of forty.

The first regular allotment of Model S Mitchells to be sent to dealers, left the plant of the Mitchell-Lewis Motor Co., at Racine, Wis., last week. The Model S is the new six-cylinder listed at \$2,000.

The Gardner Wheel Company, Indianapolis, has put in complete equipment for the manufacture of automobile wheels. Indiana hickory, which has long been the standard wood for this purpose, will be used.

The Star Rubber Company, of Akron, Ohio, has announced its intention of manufacturing automobile tires on a large scale. A large addition to its present plant will be erected within a short time.

The E-M-F people say that they set a record of 20 cars a day sold at the recent Philadelphia Show. This company exhibited a full line in their spacious showrooms on Chestnut street, that city.

The McCord Machine Company, Philadelphia, Pa., formerly located at 162 1-4 Brandywine street, has removed to 2231 Brandywine street, where it has a first-class establishment.

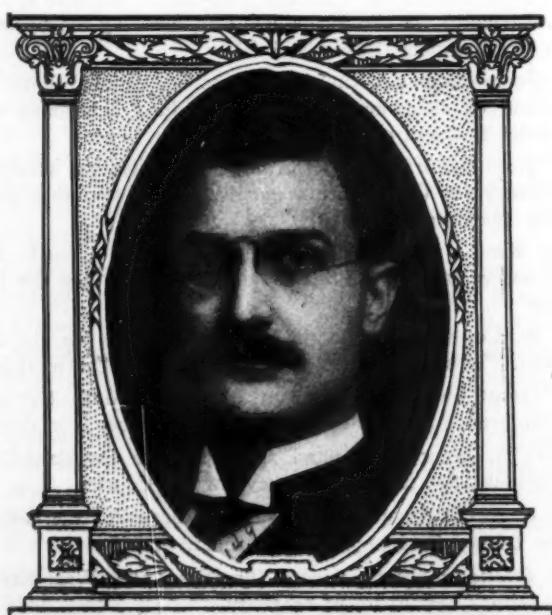
The B. C. K. Motor Car Company, of Philadelphia, has just completed new buildings at its Bath, N. Y., plant, and machinery, approximately \$32,000 worth, has been installed.

W. L. Eslein, traveling representative of the Wisconsin Motor Car Company, of Janesville, Wis., making the "Wisco," is now working in northern Wisconsin placing agencies.

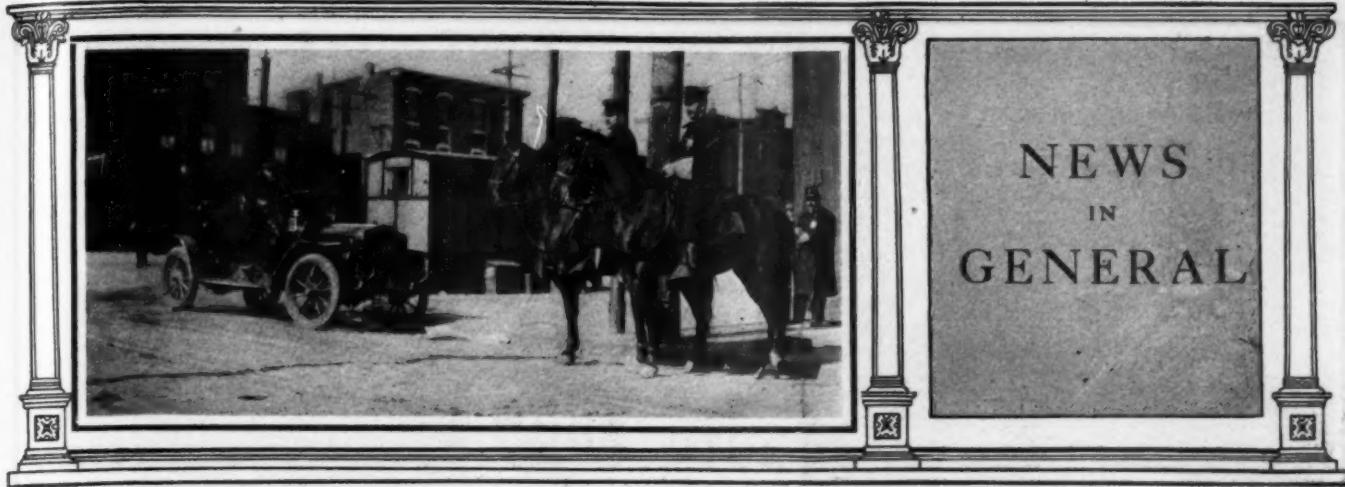
The Pope Manufacturing Company, of Hartford, Conn., has delivered to the Denver fire department a combination chemical and hose wagon of the usual type.

The Compressed Gas Tank Company has succeeded the Puritan Gas Tank Company, and will continue to build these latter tanks at Canton, Mass.

Beginning February 1, the price of the Hupmobile was raised \$50, and in the future this little car will sell for \$800.



J. G. Perin, chief engineer, the Lozier Motor Company, Plattsburg, N. Y., and Detroit, Mich.



Scene in Philadelphia during the big strike, showing the White steamer used by the police to charge through the crowds and thus disperse them

Boston now has over eighty purely automobile houses, representing over one hundred different makes of cars. There are about a dozen makes of commercial motor vehicles represented, and the rest are pleasure vehicles. This is a marked increase over last year, both in the number of establishments and in cars represented. The cars include practically every well-known make of American machine, and within the past few months not a few of the newer cars have obtained agencies here. There are a half-dozen agencies or branches for the sale of foreign cars. Of the total number of establishments, seventeen are branch houses and the remainder agencies. Only one or two new branches have been opened the past year, the tendency being apparently more strongly in the direction of agencies than toward branches. The local trade is in excellent condition, and long before the deliveries of 1910 models ceases a new record for sales will have been established, all previous marks at show time already having been surpassed.

Paul Hardin, of Chester, S. C., is out with a challenge that has set the auto gossips busy in at least four of his neighboring counties. A few days ago W. C. Thomson agreed to buy a two-cylinder 1910 Reo on condition that it would be run under its own power from Chester to Bullock's Creek, S. C., by Hardin. Thomson lives twenty miles from the nearest county seat, where the roads are of a heavy red clay, which at this time of the year are impassable for a wagon in many places. The long trip was successfully made by Hardin, though the road was lost twice. Thomson is now the proud owner of the car and Hardin offers to bet any local dealer of a car that cost twice the price of the 1910 two-cylinder Reo, one car against the other, that he cannot follow the Reo in a cross-country run to Bullock's Creek, or over any other similar roads within fifty miles of Chester. The challenge has as yet not been accepted.

With the advent of open weather will come the installation of the first suburban auto bus service ever operated in Philadelphia County, Pennsylvania. Citizens living along Bustleton Pike, between Frankford and Somerton, have requested the rapid transit company in Philadelphia to establish a line along the Pike. Failing in this, a number of citizens decided to form a company, with a capital of \$15,000, to be used for the installation of an auto bus line. Three cars, with a capacity of fourteen passengers each, have been bought.

The Aero Club of America has secured one of the finest suites of offices in the Engineering Societies Building, 29 West Thirty-ninth Street, practically the last now available in that national headquarters of professional men devoted to engineering and mechanical pursuits. It is the home of twenty-five engineering bodies with some 30,000 members, every one of whom, by nature of his training and occupation, is interested in this latest development of mechanical arts.

A Cadillac roadster has been purchased by the Water Department of Wilmington, Del., at a cost of \$1,700, for the use of the directors and officers of the department. This is the second branch of the city government to be so equipped, the street and sewer department having had a machine in use for some time, with great success.

A Webb automobile fire engine has been purchased by the Reliance Fire Company, of Wilmington, Del., at a cost of \$8,500. The builders are to give it a thirty-day test before it is accepted by the purchaser. Several other companies are awaiting the result of this test before placing orders for machines.

Sheriff H. E. Frank, of Milwaukee, believes that it takes an automobile to catch an automobile, and has a 1910 Franklin touring car, with which he plans to capture speed law violators during the summer. The Sheriff will cover the Whitefish Bay road, one of Milwaukee's best automobile highways.

Carl G. Fisher, of Indianapolis, has divulged plans for an automobile row in that city, which will represent an aggregate expenditure of about \$1,000,000. It is said that the ground has been purchased and plans drawn for the building.

The Pittsburgh Taximeter Company has been organized by Grant McCargo, Charles A. Blanchard and John W. Weibly to manufacture taximeters.



H. O. Smith, president of the Premier Motor Mfg. Company, Indianapolis



Independent Boston Show in the Former Art Museum, Where Parry, Lexington, Hupmobile, Mack, and Whiting Appeared

INDEPENDENTS SHOW AT ART MUSEUM

The old Art Museum in Copley Square, Boston, was turned over to the independents who failed to get space at the big show in Mechanics' Building, and the effort, while it is less pretentious than that of the trade association, attracted its measure of the patrons in Boston and vicinity. The location of the Art Museum is so thoroughly advantageous that every autoist in going to and from the railway trains at Back Bay had attention drawn to the independents' show by large and well-placed signs which are clearly depicted in the illustration here offered. The attendance is reported as encouraging in the extreme, and the independents who have the courage of their convictions feel justified in thus making what must be termed an ambitious effort.

Exhibitors at the independents' show were: Hupmobile, Lynn Automobile Company, Boston; Rainer, Rainier Company, Boston; Lexington, Nock Auto Company, Providence; Mack, the Manhattan Motor Truck Company, Boston; Parry, the Parry Company, Boston; Whiting, Flint Wagon Works, Flint, Mich.

AEROPLANE AND BIG CROWD AT PORTLAND

PORTLAND, ME., Mar. 5—Portland's automobile show closed Saturday evening, and there had been a record-breaking attendance during the whole of the week. Not only were there large crowds during the afternoons and evenings, but the morning attendance was the largest ever known in the history of the five shows given in Portland. Before the end of the week, as some of the cars were late in arriving, it was estimated that fully \$300,000 worth of automobiles had been placed on exhibition.

On Friday, the day before the show closed, an aeroplane of the Curtiss type arrived, and was exhibited in the basement of the Auditorium. It proved the center of attraction for the whole show, as hundreds of people went to the exposition just to see this. The flyer shown was the property of F. J. Tyler, of the Maxwell-Briscoe Company, and was especially loaned to the Portland show by the owner, who had purchased it at the Boston aero show.

MILWAUKEE SHOW FINANCIAL SUCCESS

MILWAUKEE, Wis., Mar. 7—It is conservatively estimated that nearly 100 cars were sold during motor show week in Milwaukee, to the aggregate value of \$215,000. This includes sales made at the Milwaukee Automobile Club's second annual exposition in the Auditorium and by the fourteen independent dealers who held private shows in their garages. The Auditorium show's total attendance was 33,500. Of the profit, the exhibitors will receive 35 per cent., or 10 per cent. more than in 1909.

Twenty-six pleasure vehicles were shown for the first time at the Milwaukee show, the newcomers comprising more than 50 per cent. of the entire pleasure vehicle display. In the commercial section twelve makes were presented and Milwaukee's standing as a commercial vehicle manufacturing center was strikingly shown in this instance. In the motorcycle division six standard makes were represented, three being home products, while the accessory concerns represented numbered twenty-four.

The officers and board of directors of the Milwaukee Automobile Club who were largely responsible for the pronounced success of the exhibition, even in spite of many obstacles placed in their way by the so-called insurgent dealers, are as follows: President, Clarke S. Drake; vice-president, Geo. A. West; secretary, Arthur C. Brenkle; treasurer, Lee A. Dearholt; M. C. Moore, C. Schlotka, O. F. Fischbeck, Dr. Louis Fuldner, Wm. H. Pipkorn, J. E. Farber, Faustin Prinz, J. F. Schreiber.

FOUR MORE SELDEN PATENT LICENSEES

Seventy-six makes of American and foreign cars now appear on the official list of Selden Patent licensees.

Those appearing on the list for the first time are: Flandrau Motor Car Co., of New York City, licensed to import and sell in this country the Brasier car; W. H. McIntyre Co., of Auburn, Ind., making the McIntyre car, and Simplex Motor Car Co., of Mishawaka, Ind., making the Amplex car, formerly known as the American Simplex, and Great Western Automobile Company, Peru, Ind., making the Great Western car.

CHICAGO SHOW FOR 1911 WILL RUN THIRTEEN DAYS

THE Chicago Show of 1911 will extend over a period of thirteen days, exclusive of Sundays, instead of seven days.

This was decided upon at a meeting of the executive committee of the National Association of Automobile Manufacturers, Inc., held on Wednesday afternoon, having been recommended by the show committee and the general manager.

The amount of space at the command of the Chicago show management is greater than at any other show held in the United States, but this year, despite this fact, the application of over 40 makers of automobiles and 200 makers of accessories were refused on account of lack of space, while the makers of commercial vehicles were not even considered.

It has not yet been decided how the exhibits will be divided. It may be, and it is indeed probable, that the space allotted to automobile exhibits during the first week will be given exclusively to members of the National Association of Automobile Manufacturers, as founders, but whether pleasure cars and commercial vehicles will be mixed during the second week is a matter for future consideration, and is, perhaps, dependent to some considerable extent on the amount of interest taken in the exhibition by commercial vehicle makers.

Another branch requiring careful consideration is the motorcycle department, confined heretofore to about 25 spaces, but demanding, through the Motor Cycle Manufacturers' Association, at least four times as much space as it has been possible heretofore for the management to furnish.

The show will open on Saturday, January 28, and the first section will continue until and including Saturday, February 4. The floor will be entirely cleared of cars that night, and the buildings will reopen on Monday afternoon, February 6, for

the second section of the show, continuing until and including Saturday, February 11.

Present at the meeting on Wednesday afternoon were: L. H. Kittredge, W. T. White, Thomas Henderson, W. E. Metzger, S. T. Davis, Jr., S. D. Waldon, C. C. Hildebrand, H. O. Smith, A. L. Pope, Benjamin Briscoe, R. D. Chapin, C. G. Stoddard and S. A. Miles, general manager.

The report of the late Chicago show showed that there had been 1,548 dealers in attendance, and that the total attendance, including the public, dealers, exhibitors and their attendants, exceeded 200,000 people, and probably reached nearer 220,000.

The committee further adopted the following resolution: "Resolved that, in the opinion of this executive committee, the interests of automobile manufacturers are well and sufficiently served by the national shows held annually at New York and Chicago, and that experience has indicated that an addition to the number of shows would be undesirable.

"Resolved further, that the National Association of Automobile Manufacturers, Inc., will sanction, during the twelve months following the date of this resolution, no shows other than the annual national shows at New York and Chicago."

The president nominated and the committee approved the appointment of the following standing committees for 1910: Membership—S. T. Davis, Jr., J. W. Gilson, C. C. Hildebrand. Legislative—W. R. Innis, Benjamin Briscoe, C. G. Stoddard. Good Roads—R. D. Chapin, S. D. Waldon, L. H. Kittredge. Show—W. E. Metzger, A. L. Pope, Thomas Henderson. Contest—H. O. Smith, W. T. White, W. E. Metzger. Auditing—Benjamin Briscoe, S. T. Davis, Jr., Charles Clifton. Traffic—A. L. Pope, W. R. Innis, C. C. Hildebrand.

ALBANY SHOW WINS AGAINST WEATHER

(Continued from page 511.)

Notwithstanding a bad snowstorm which started early in the evening—in fact before dark there was a mighty good attendance—all of which was paid as the management, original again, did not put out any paper to swell the first night's attendance.

The usual large number of manufacturers and accessory representatives are on every hand giving the show the appearance of first importance such as it warrants by its extreme excellence in every detail.

The list of exhibitors comprise:

Albany Garage Company, Peerless, Simplex, Studebaker, Palmer-Singer, Apperson, E-M-F and Flanders; Albany Hardware & Iron Company, auto supplies, sporting goods, launches and canoes; Albany Motor Car Company, Cadillac and Thomas; Albany Rubber Tire Company, Selden; Buick Motor Company, Buick, Welch-Pontiac, Welch-Detroit; B. A. Burtiss, American, Hurtis auto wind shield; Central Automobile Company, Knox, Hupmobile; Cox Brass Manufacturing Company, windshields and accessories; Thomas L. Davis & Company, Jenkins; William Daye, Matheson; Eureka Motor Car Company, Cutting; G. Feltman, Reading Standard and Emblem motorcycles; Franklin Auto Company, Franklin; James Goold Company, Marmon; J. A. P. Ketcham, Packard; John Kingsbury, special bodies, tops, etc.; Lansing & Morrison, Gramm-Logan trucks; Maxwell-Briscoe Albany Company, Maxwell, Columbia; Peter Murray, Inter-State; Mohawk Valley Auto Company, Oakland, Oldsmobile; Park Garage, Mitchell, Speedwell, Chadwick, Frazer-Miller; Patten & Almy, Cameron; C. Sutherland Ransom, Lozier, Stevens-Duryea, Mercer; Roy M. Robinson, Reo, Rainier; Rose & Kiernan, auto insurance; Wm. L. Schupp & Sons, Marion, Overland, Rapid trucks; Snyder Auto Bazaar, Velle, Stearns; Steefel Brothers, auto apparel; Troy and Albany Auto Exchange, Pierce-Arrow, Chalmers, Hudson; Troy Auto Improvement Co., Hupmobile, Koehler; Taylor Automobile Company, Locomobile; George W. Wait, Elmore; Walter Chain Mat Company, No-skid chains; C. F. Weeber Manufacturing Works, Ford, Haynes; J. B. Wilbur, Regal, Croxton-Keeton; Wright-Rye Motor Company, White, Jackson, Rambler, Atlas; Vrooman Brothers, Hupmobile, Regal, Elmore.

The committee in charge consists of Major Charles B. Staats, Captain William J. McKown, Captain Allan L. Reagan, Wm. J. Grounsell, Chauncey Hakes, C. Sutherland Ransom, W. K. Foskett, J. A. P. Ketcham, Dr. Edward G. Cox and James C. Fitzgerald.

OMAHA DEALERS HOLD A GOOD SHOW

OMAHA, NEB., Mar. 3—One of the most successful shows ever held in the West came to a close Saturday night. Omaha dealers are proud of the showing they were able to make, especially in the number of different cars; the Omaha exposition had but five less factories represented than that at Chicago. This exhibition, in the minds of the local dealers, has clearly demonstrated that Omaha is the real center of the automobile trade west of the Mississippi.

The show just closed is the fifth to be held by the Omaha dealers. When the first show was held there were but five dealers in the city, and they had to scour the country to secure cars enough to make a respectable showing in the big building. Considerable urging was necessary to persuade some of them to take the chance on renting the building. Now it is not a question of how to get cars to fill the building, but rather how to get in all those that want to exhibit.

The management of the Sioux City show was so impressed by the decorations at Omaha that it bought all the fixtures outright at half price, thus making a saving to themselves as well as to the Omaha management.

RUMOR INVOLVES MORGAN AND E-M-F

DETROIT, Mar. 9—Just as THE AUTOMOBILE is going to press a special wire from Detroit reaches the Editorial Office in which it is said "Morgan gets E-M-F for five million dollars." All efforts to verify this story proved futile, nor was it possible to obtain information bearing upon this subject from anyone who could be reached in the office of J. P. Morgan & Company. Walter E. Flanders, president and general manager of the E-M-F Company, left the Hotel Martinique, New York, yesterday morning ostensibly to visit the Boston Show. THE AUTOMOBILE was unable to reach him within the limited time available.

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Cadillac Motor Car Co.	55	55	Hardy Co., R. E.	54	Okonite Co.	70		
Cameron Car Co.	55	55	Hartford Suspension Co.	104	Packard Electric Co.	97		
Canton Drop Forging & Mfg. Co.	55	55	Hart-Kraft Motor Co.	82	Packard Motor Car Co.	144		
Car Makers' Selling Co.	78	78	Haynes Automobile Co.	72	Palmer & Singer Mfg. Co.	99		
Carter Carburetor Co.	115	115	Hazen-Brown Co.	68	Parish & Bingham Co.	55		
Chadwick Engineering Works	82	82	Heinze Electric Co.	74	Parker, Stearns & Co.	54		
Chalmers Motor Co.	137	137	Henry Motor Car Co.	116	Peerless Motor Car Co.	Cover		
Cleveland-Canton Spring Co.	108	108	Hercules Electric Co.	98	Pennsylvania Auto Motor Co.	79		
Cleveland Puncture Proof Tire Co.	70	70	Hoffecker Co.	116	Perfection Spring Co.	55		
Cleveland Speed Indicator Co.	127	127	Hoffman, Geo. W.	54	Phoenix Auto Supply Co.	63		
Cole Motor Car Co.	82	82	Hotel Woodstock	71	Pierce Motor Co.	90		
Colgan Co., J. W.	50	50	Hoyt Electrical Ins. Works.	54	Pittfield Spark Coll. Co.	103		
Consolidated Rubber Tire Co.	90	90	Hupp Motor Car Co.	141	Portland Garage Co.	64		
Continental Cautchouc Co.	55	55	Ideal Electric Co.	63	Pramer, Ludwig	71		
Continental Motor Mfg. Co.	56	56	Ilsey-Doubleday Co.	103	Prest-O-Lite Co.	100		
Corbin Motor Vehicle Corp.	74	74	Indiana Motor & Mfg. Co.	82	Prosser & Sons, Thos.	63		
Couch & Seeley Co.	76	76	Interstate Automobile Co.	74	Puliman Motor Car Co.	111		
Covert Motor Vehicle Co.	55	55	Jackson Automobile Co.	130	Raimes & Co.	54		
Crescent Tire Co.	58	58	Jacobson Machine & Mfg. Co.	68	Rajah Auto Supply Co.	60		
			Jeffery-De Witt Co.	73	Reflex Ignition Co.	69		
			Johnson Service Co.	75	Regal Motor Car Co.	75		
			K-W. Ignition Co.	101	Remy Electric Co.	131		
			Kamlee Co.	105	Reynolds, Harry H.	59		
			Kellogg Mfg. Co.	65	Rohrbacker Automatic Air Pump Co.	73		
			Kellom & Co., Chas. F.	56	Rushmore Dynamo Works	66		
						67		

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